

# KIC 006183128

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006183128-01	OBS	No	48.863855	165.461002	286503.2	1.500	11569.5	-1.0	1.00	5780	54.56	14.61
006183128-02	OBS	No	113.489513	222.867411	6654.5	2.441	62.3	0.7	1.00	5780	8.09	4.75
006183128-03	OBS	No	0.561950	131.724734	7.8	4.017	61.8	0.0	1.00	5780	0.30	5627.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006183128-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS
006183128-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006183128-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

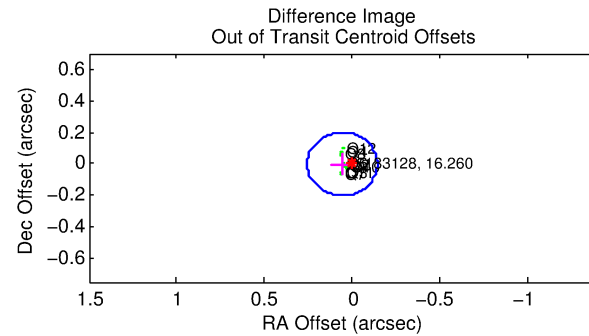
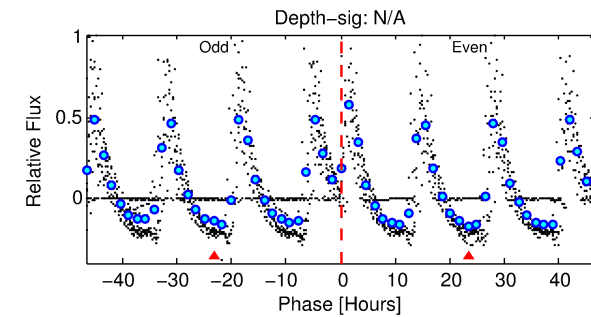
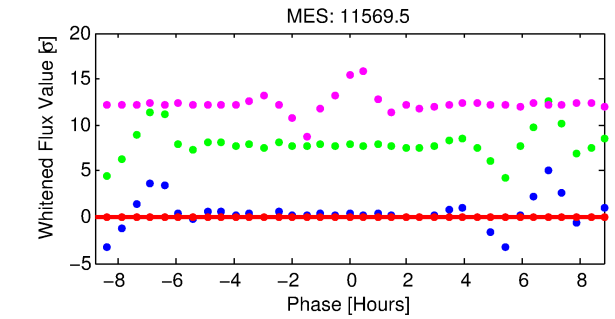
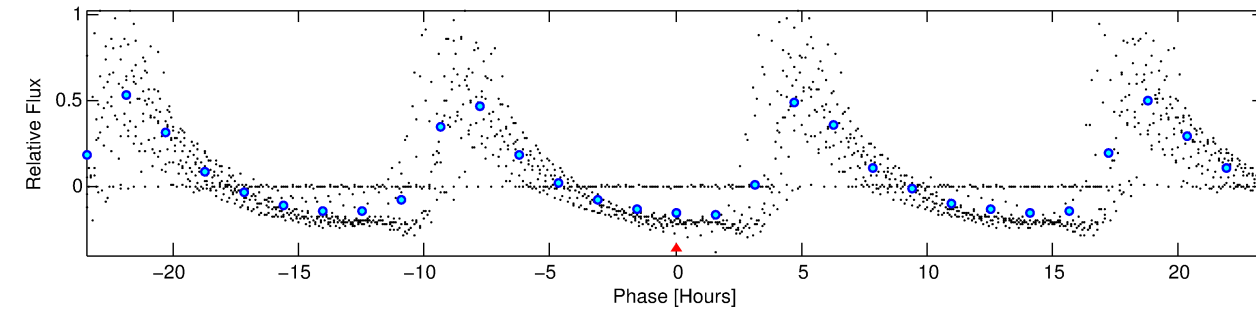
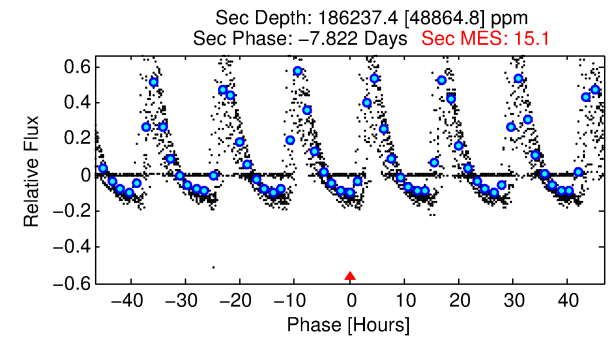
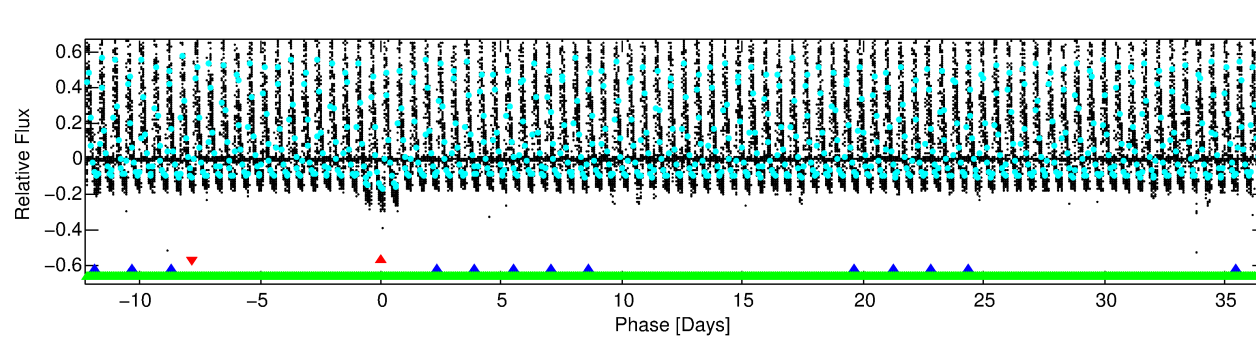
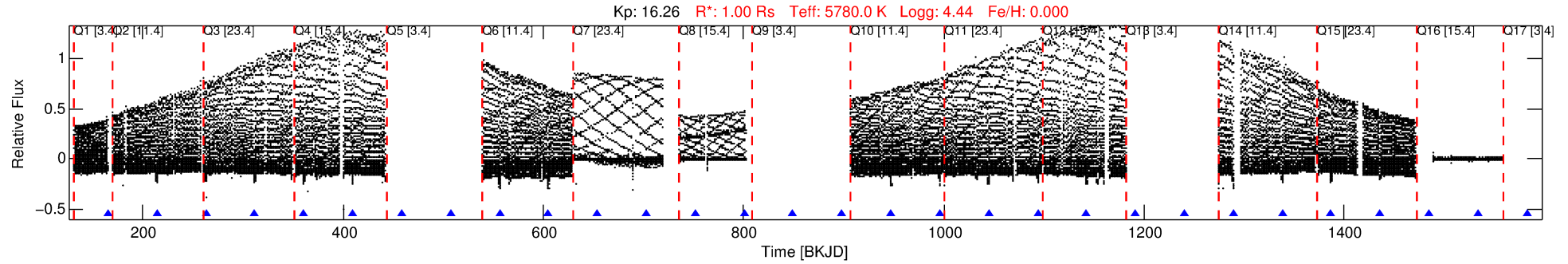
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006183128-01

No Significant Match Found

# DV One-Page Summary

KIC: 6183128 Candidate: 1 of 3 Period: 48.864 d



## TPS TCE Results:

Period = 48.86386 d  
Epoch = 165.4610 BKJD

DV fit results are unavailable

## DV Diagnostic Results:

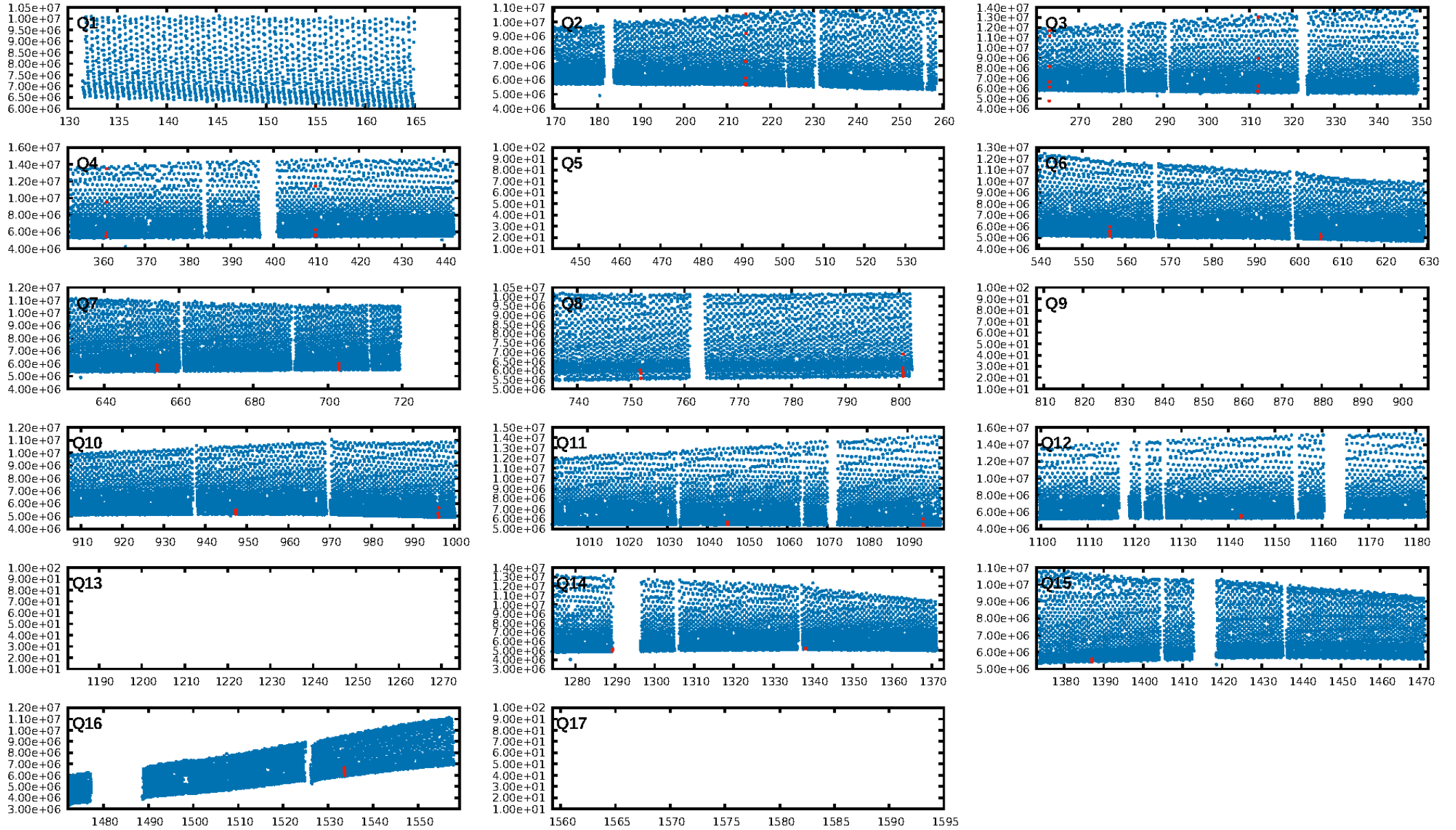
ShortPeriod-sig: 100.0% [270.35σ]  
LongPeriod-sig: 100.0% [541.36σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [20/20]  
GhostDiagnostic-chr: -1.842

Centroid-sig: N/A  
Centroid-so: 0.202 arcsec [34.71σ]  
OotOffset-rm: 0.057 arcsec [0.86σ]  
KicOffset-rm: 0.120 arcsec [1.46σ]  
OotOffset-st: 3/3/3/0 [9]  
KicOffset-st: 3/3/3/0 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 0.00 [0/9]

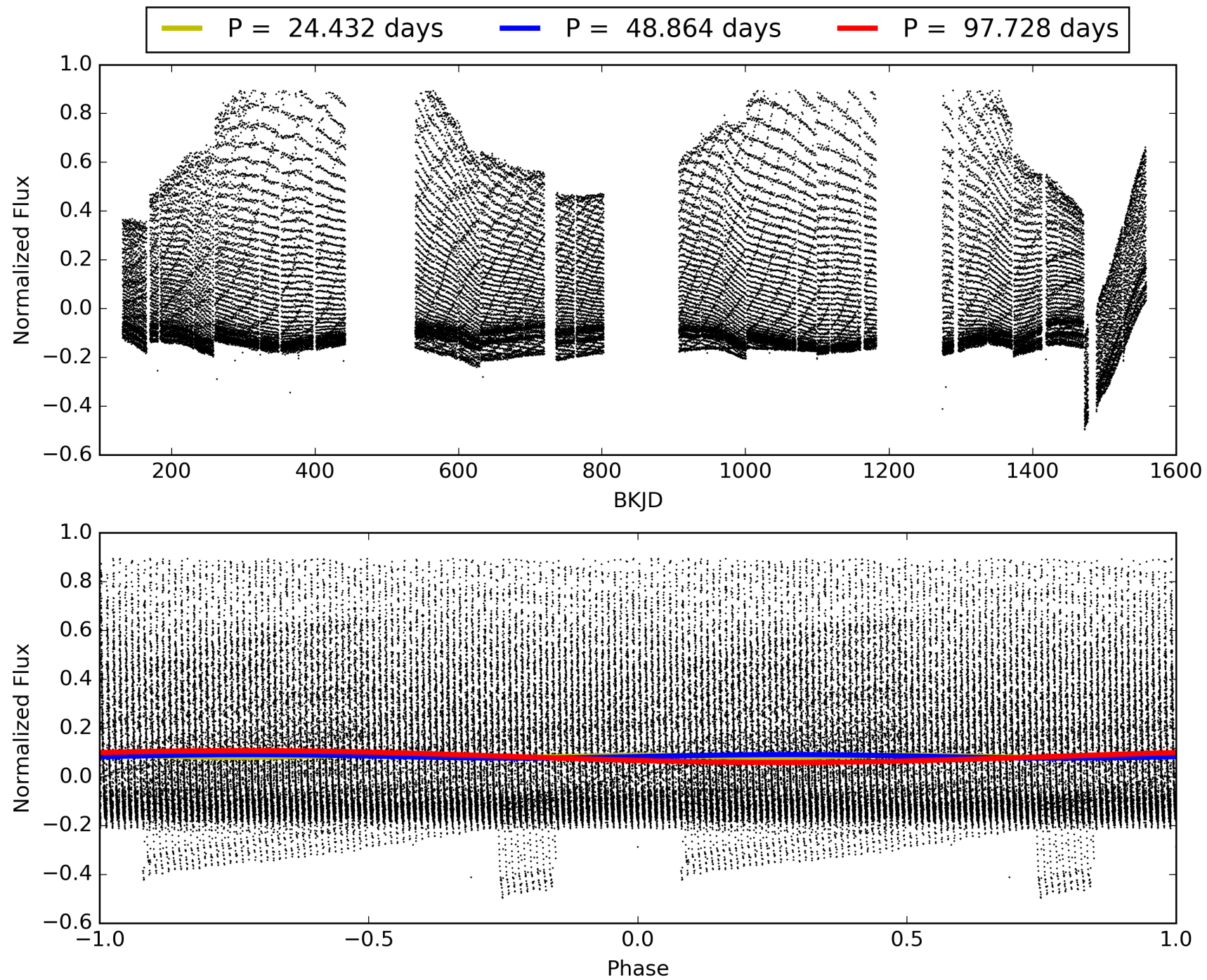
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:43:15 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006183128-01, PDC Light Curves

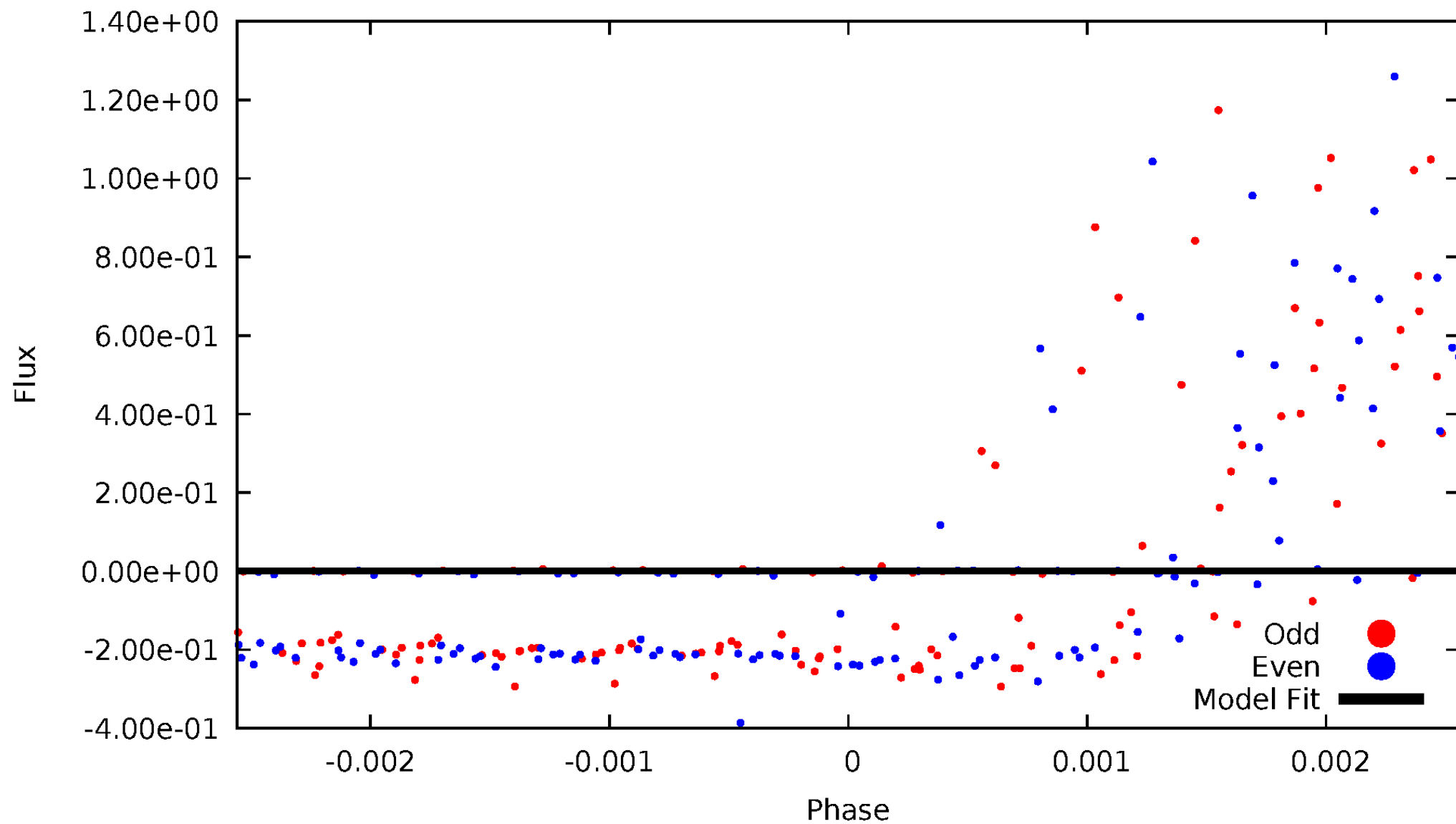


TCE 006183128-01



# DV Odd/Even

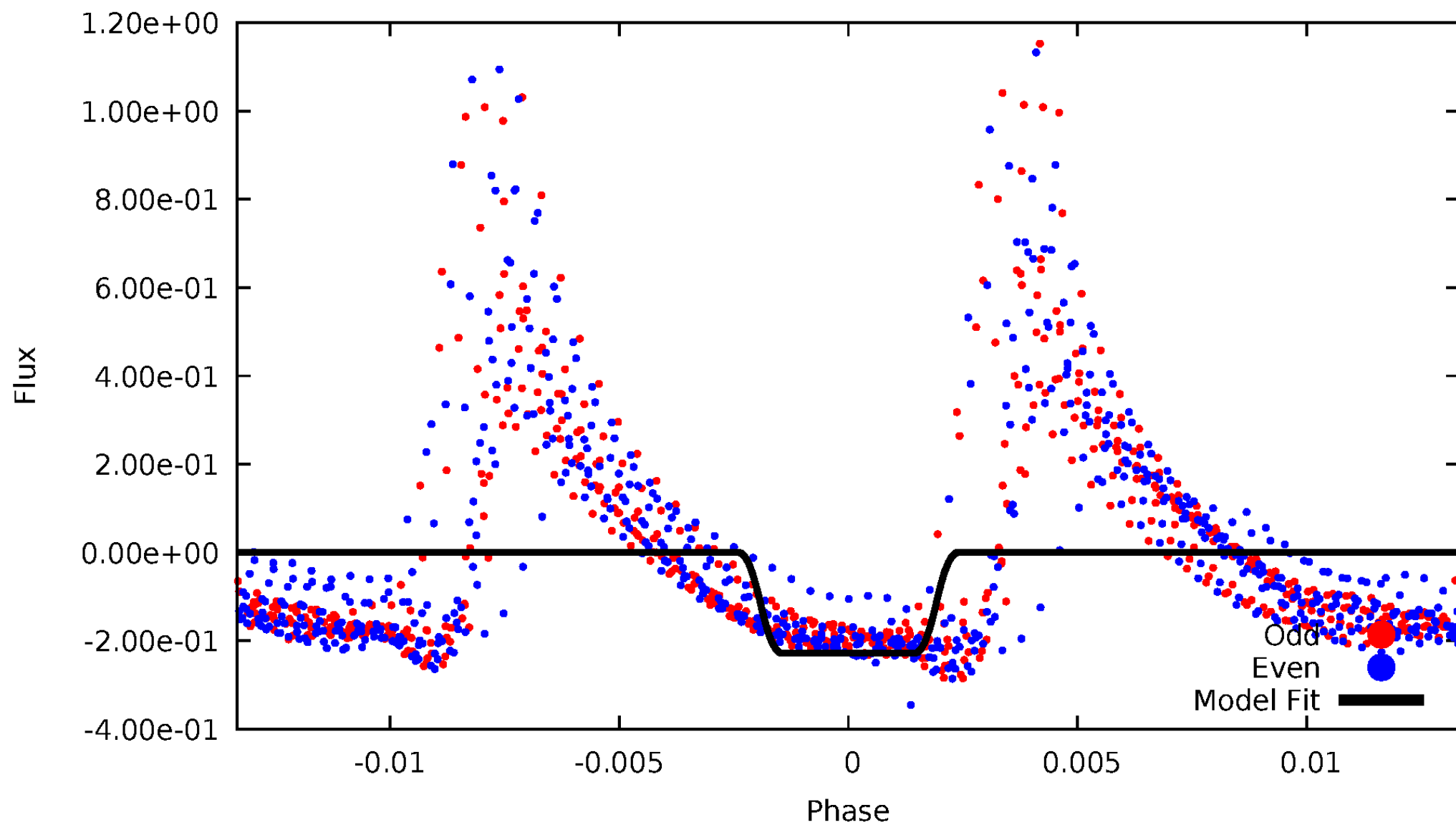
TCE 006183128-01





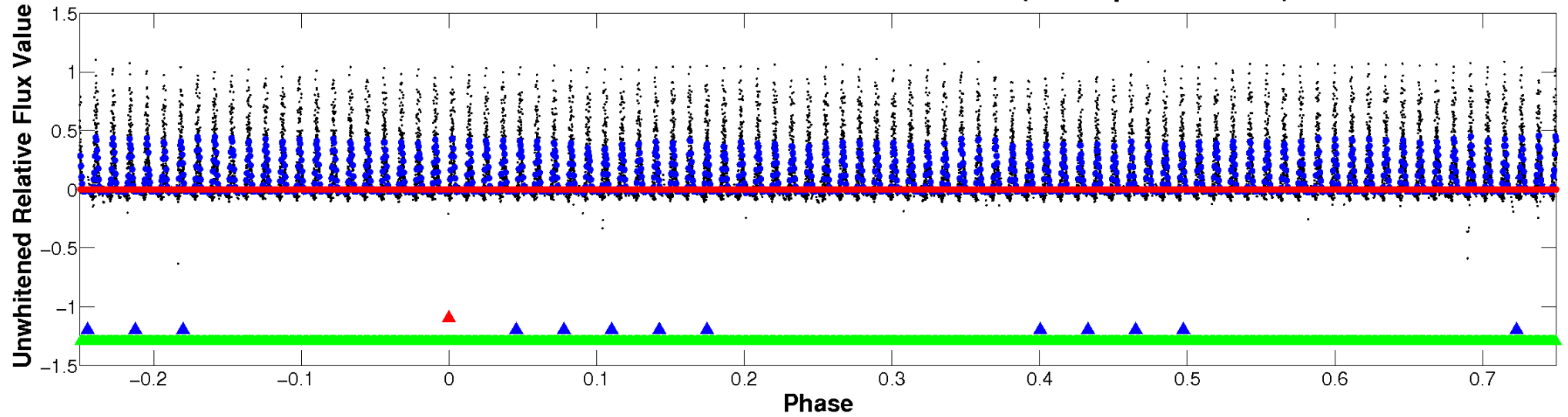
# ALT Odd/Even

TCE 006183128-01

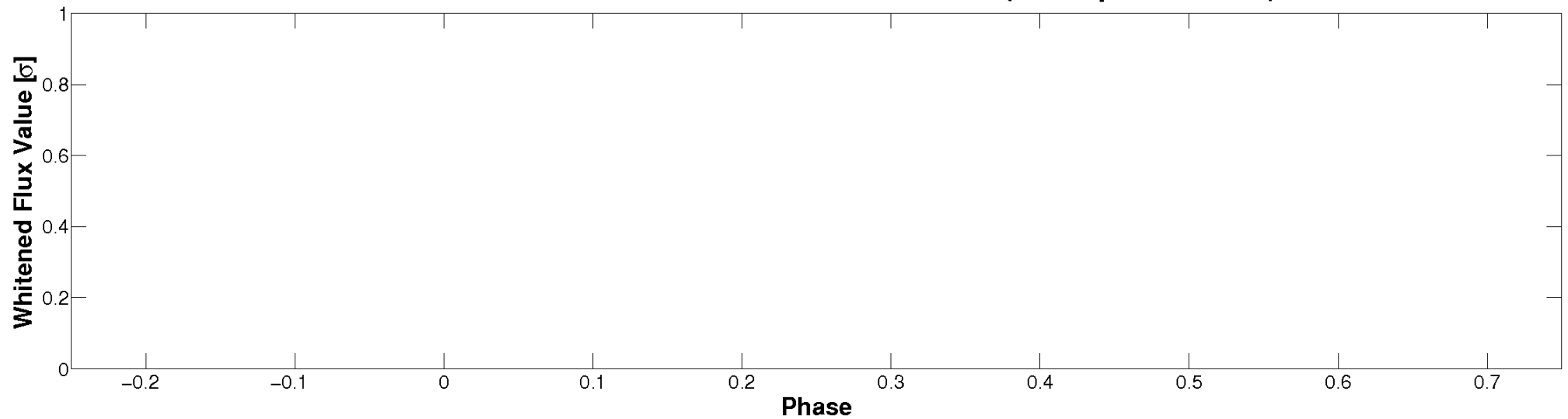


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

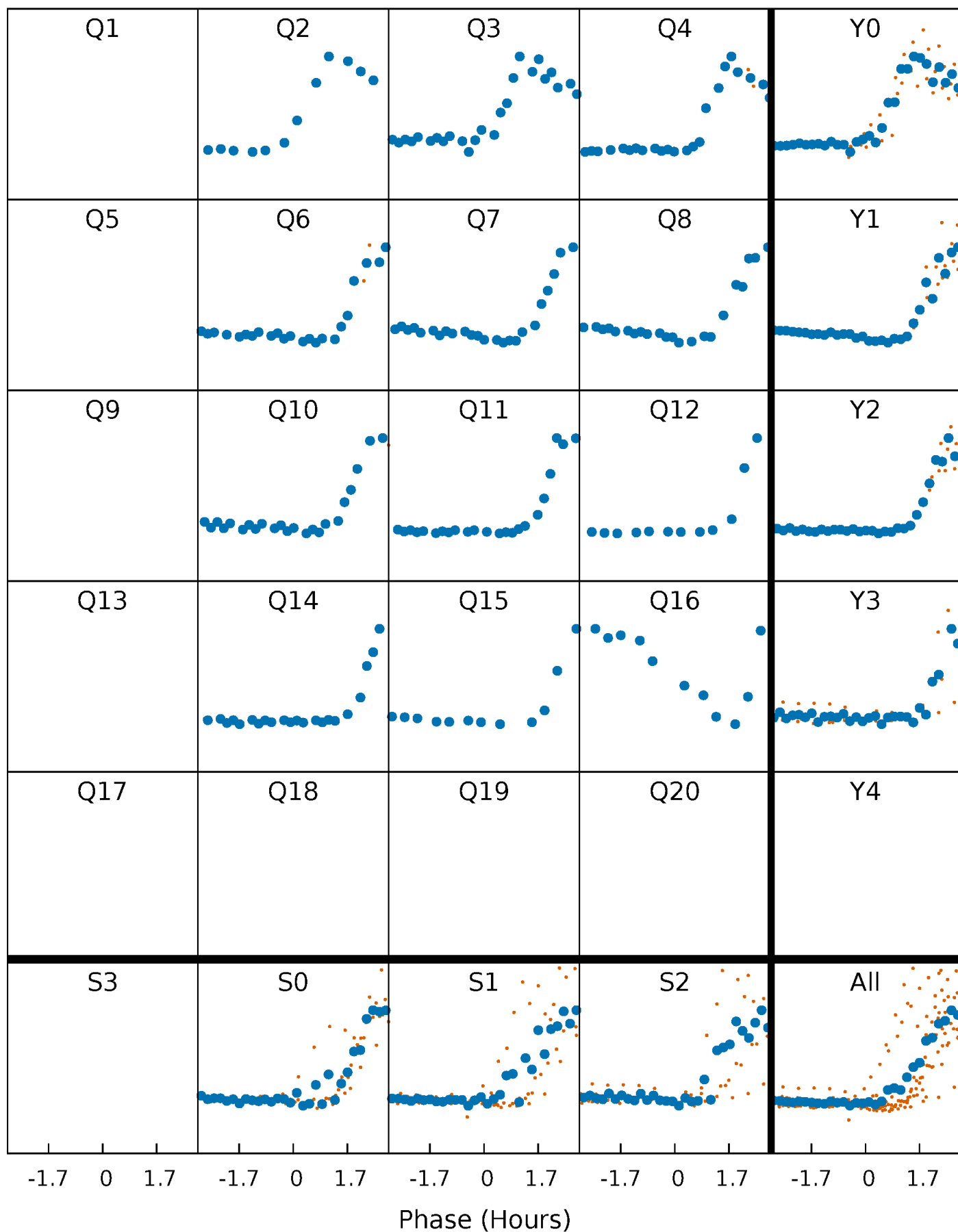


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

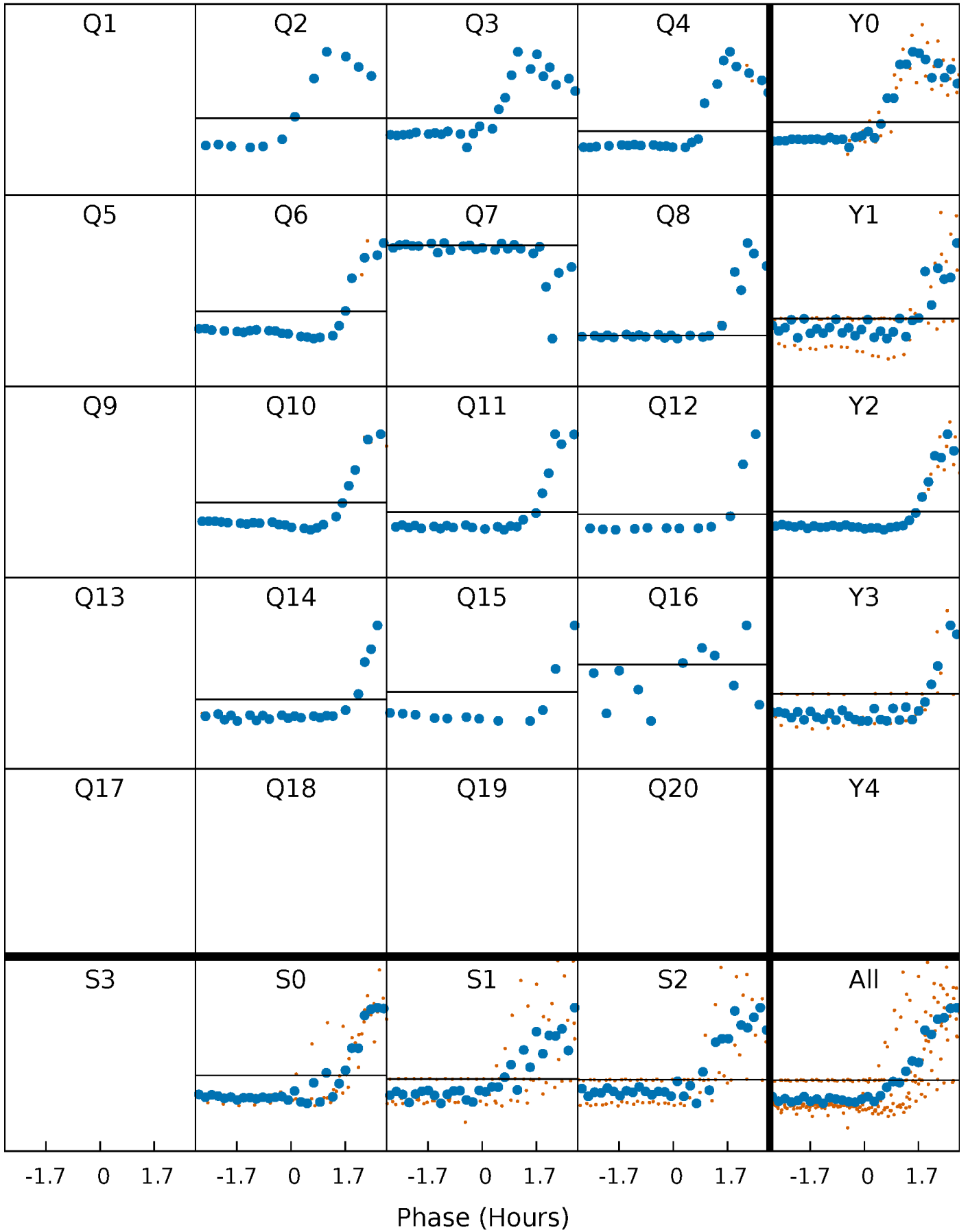
TCE 006183128-01 P= 48.863855 Days  $T_0=165.461002$  (BKJD)





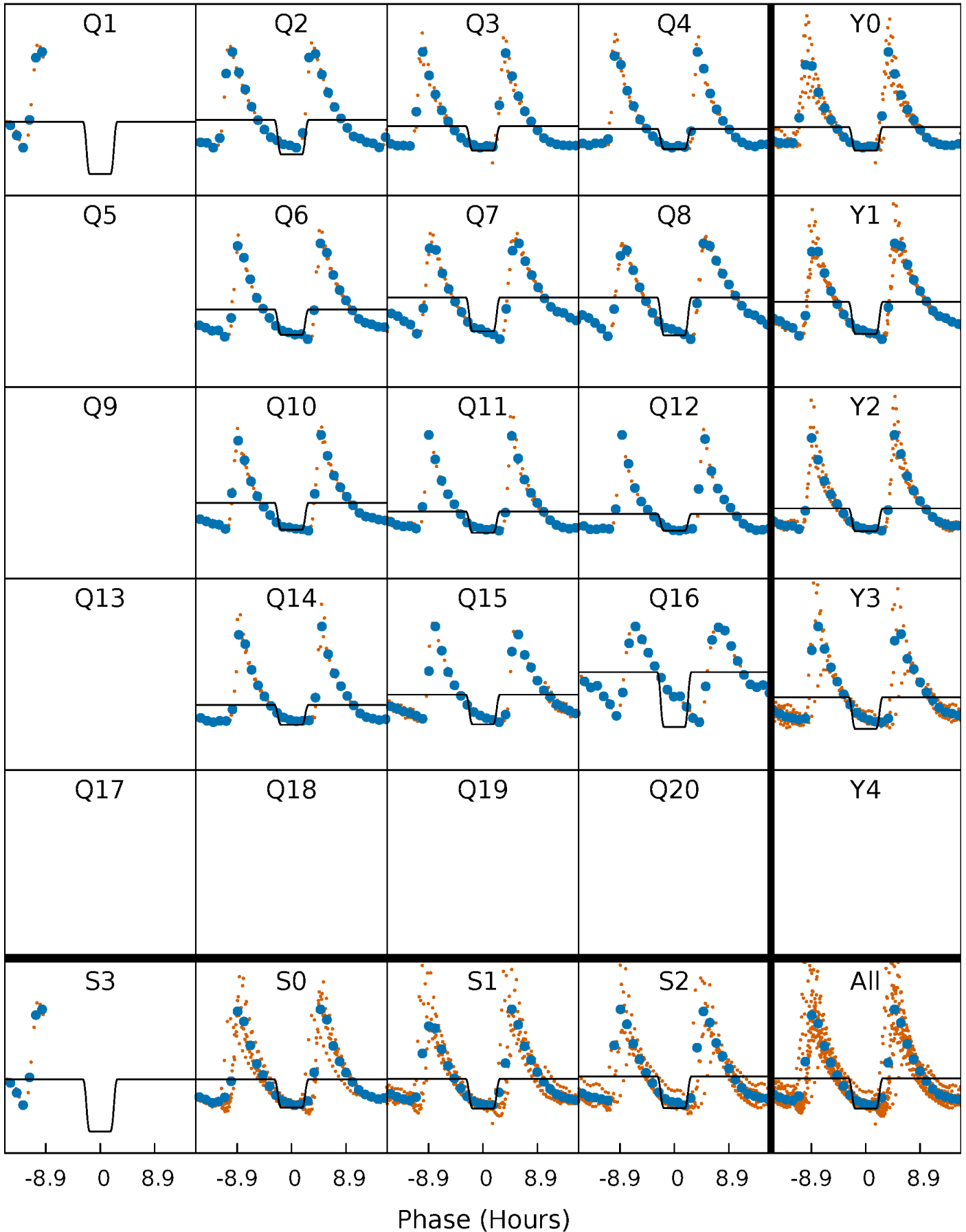
# DV Quarter-Phased Transit Curves

TCE 006183128-01 P= 48.863855 Days  $T_0=165.461002$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

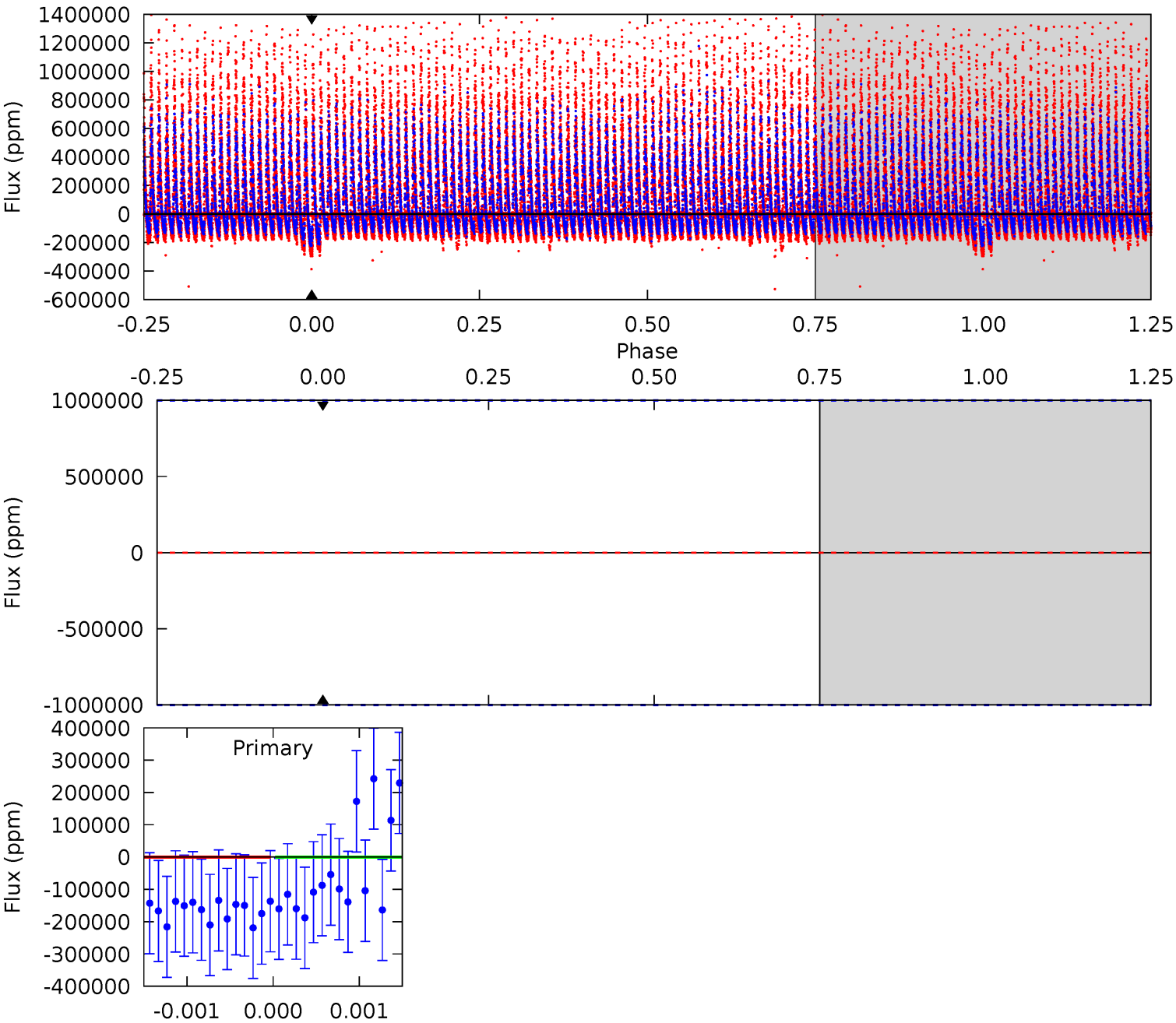
TCE 006183128-01 P= 48.863855 Days  $T_0=165.372519$  (BKJD)



# DV Model-Shift Uniqueness Test

006183128-01, P = 48.863855 Days, E = 116.597147 Days

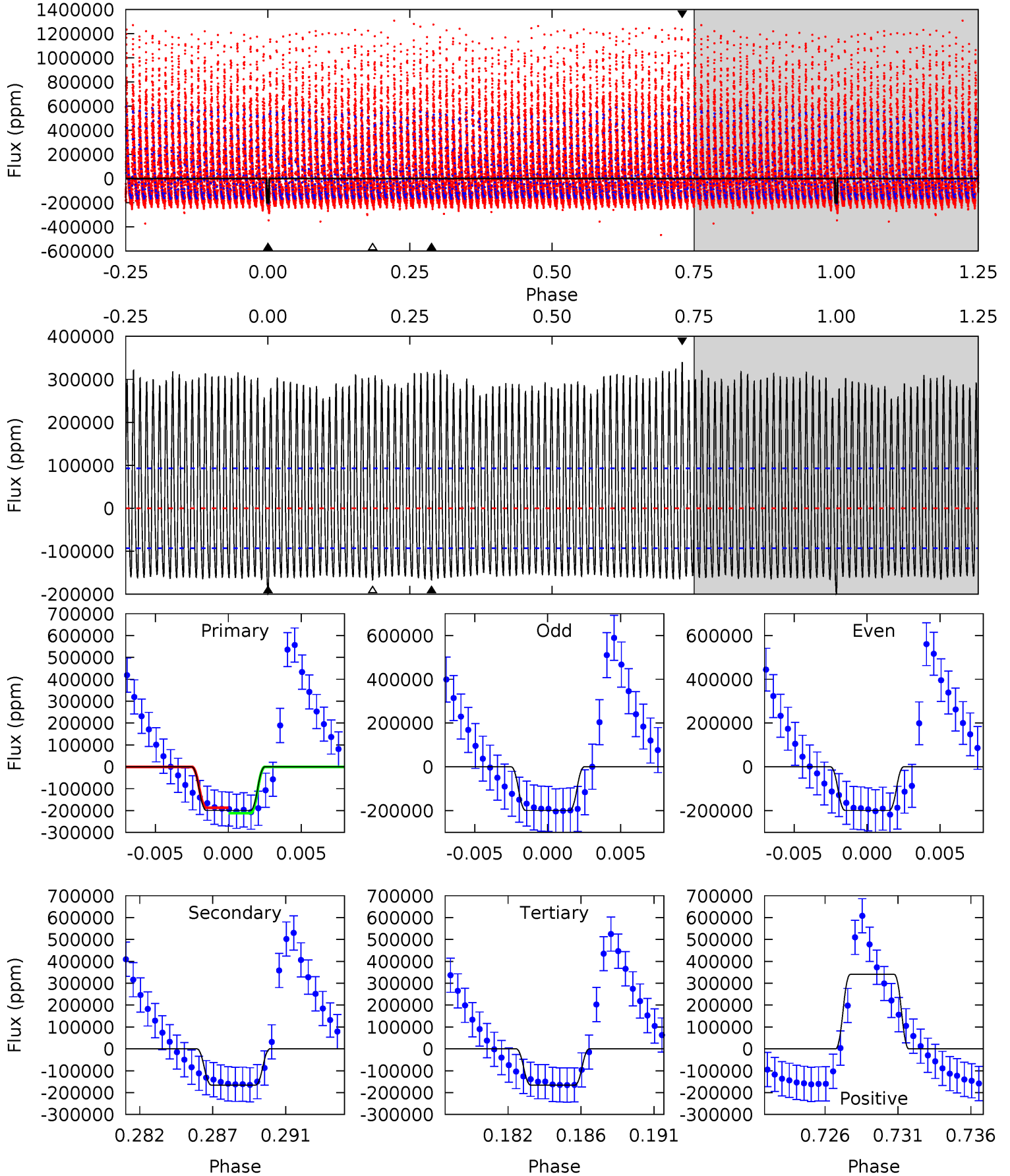
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

006183128-01, P = 48.863855 Days, E = 116.508664 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	9.20	9.20	18.9	5.17	2.82	8.65	1.88	-7.81	0.00	-9.68	0.00	0.96	0.63	0.70



### Stellar Parameters For KIC 006183128

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006183128-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$54.74^{+12.24}_{-10.66}$	$698^{+31}_{-33}$	$2120^{+2763}_{-6781}$	$4.461^{+1443.806}_{-1166.579}$
Alt.	$-165876 \pm 18022$	$52.56^{+11.42}_{-11.00}$	$694^{+35}_{-31}$	$5578^{+661}_{-532}$	$2688^{+1687}_{-913}$

$T_{max}$  = Theoretical Maximum Planetary Temperature  
 $T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)  
 $A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

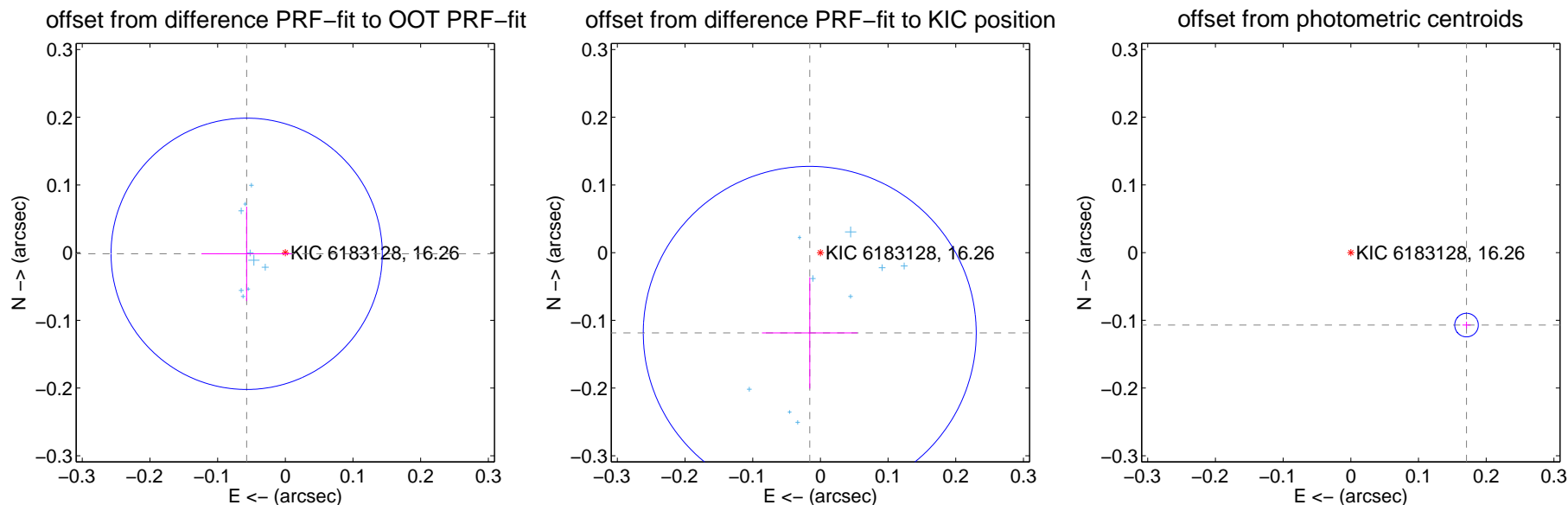
## DV Centroid Data

Supplemental centroid analysis for 006183128-01. Kepler magnitude: 16.26. Transit SNR -1.00

There are 9 quarters with good PRF difference image offsets

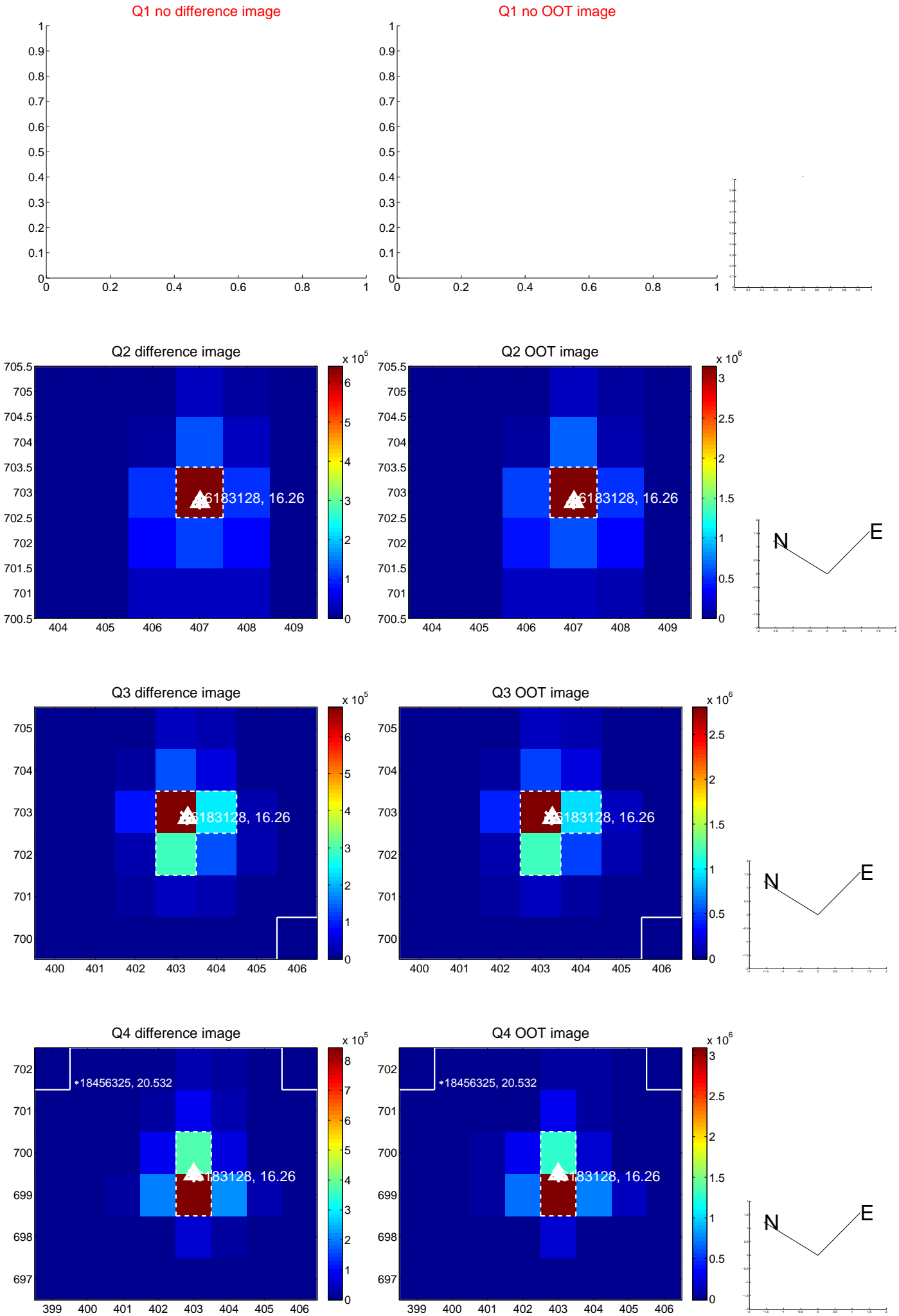
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.057 \pm 0.067$	0.86	$0.057 \pm 0.067$	$-0.002 \pm 0.070$
PRF-fit source offset from KIC position	$0.120 \pm 0.082$	1.46	$0.016 \pm 0.071$	$-0.119 \pm 0.082$
photometric centroid source offset	$0.20 \pm 0.01$	34.71	$-0.17 \pm 0.01$	$-0.11 \pm 0.01$



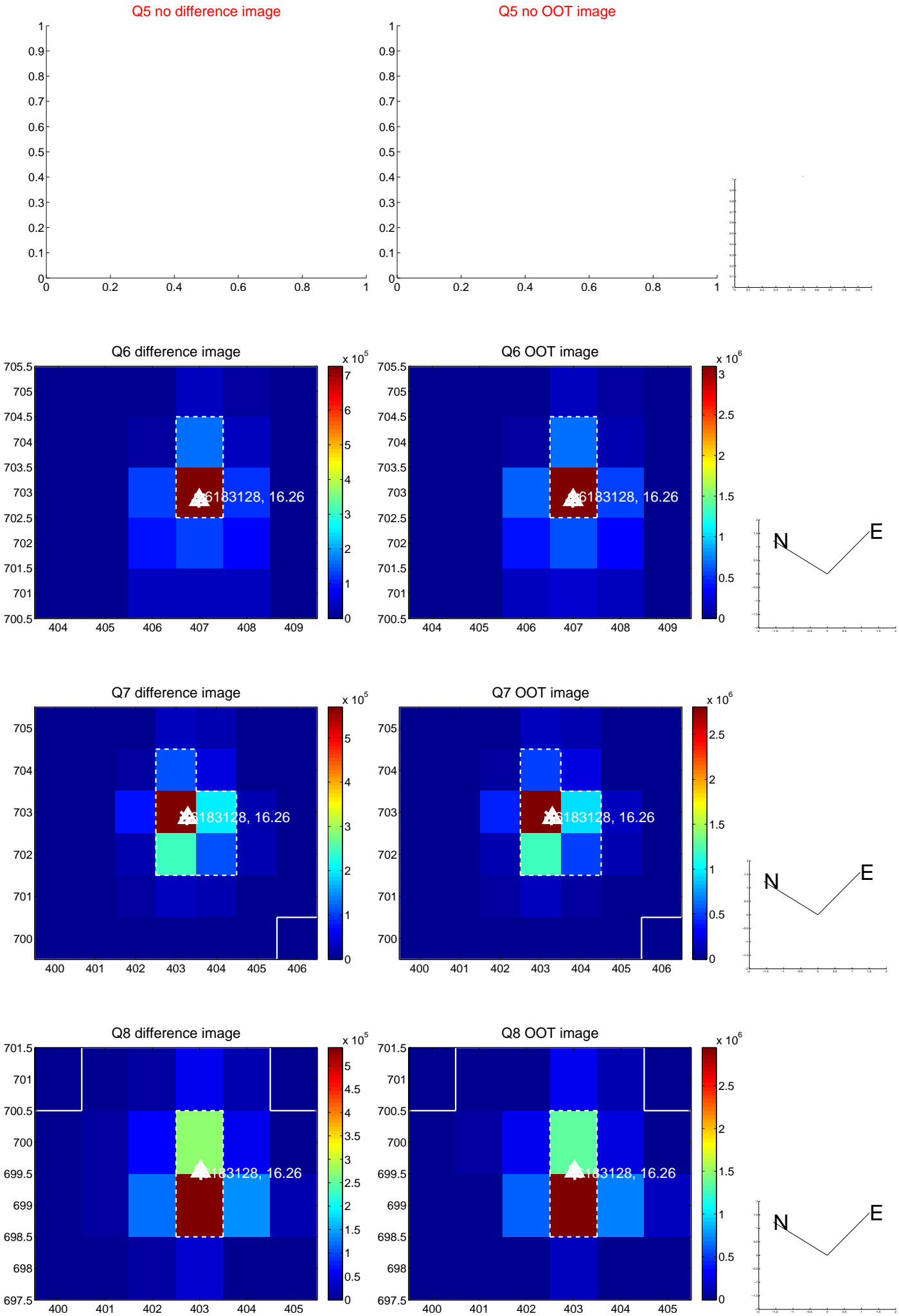
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

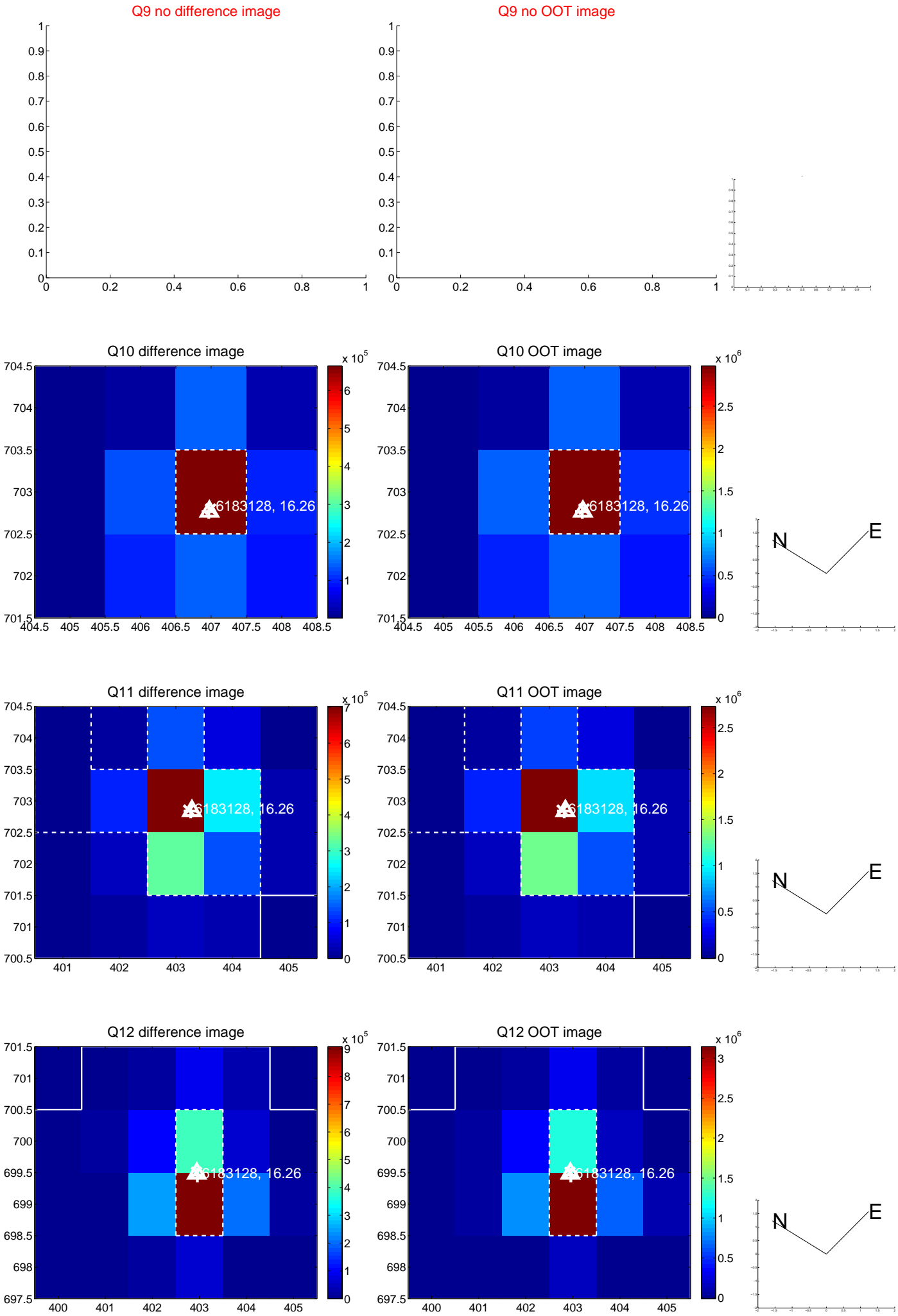




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



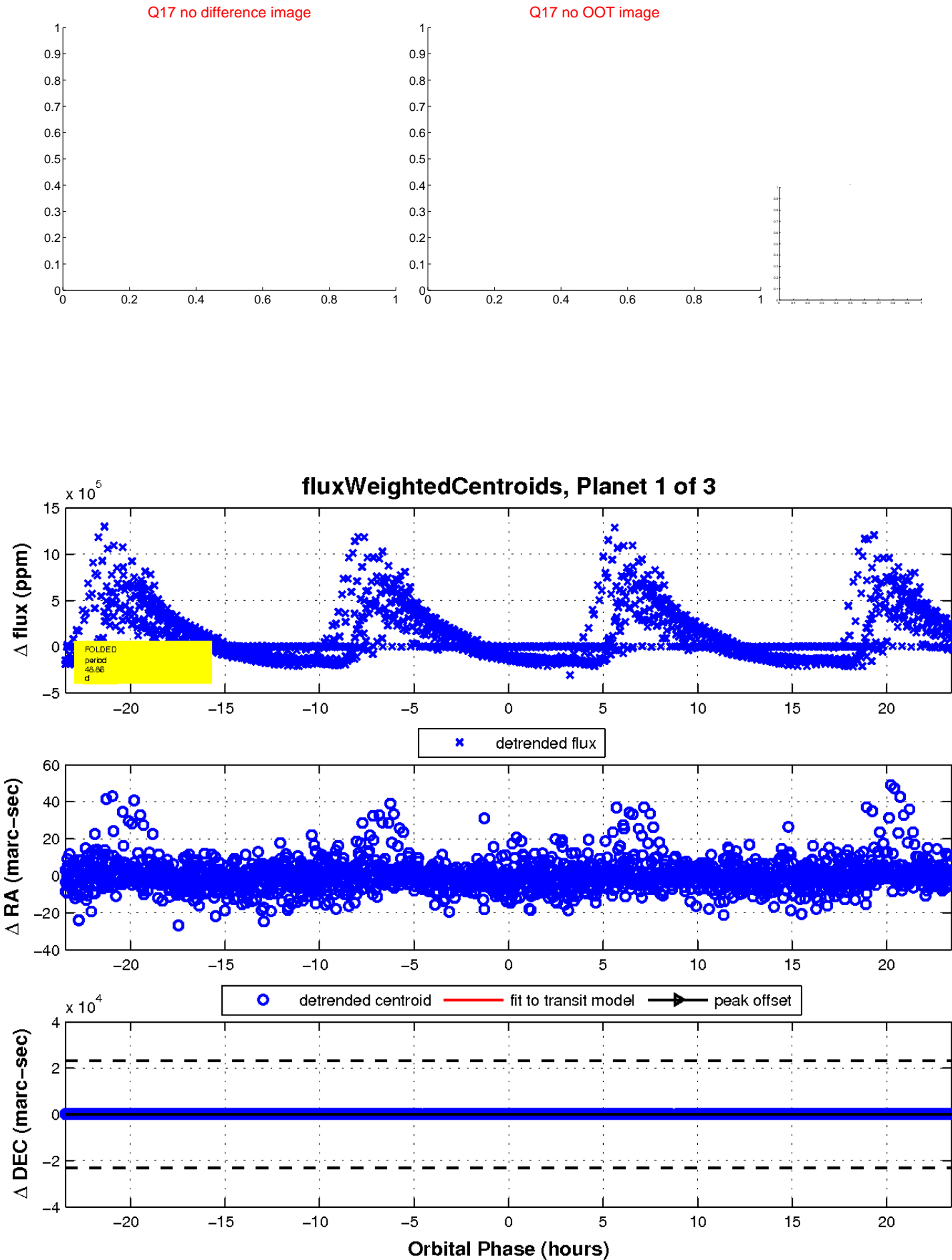
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

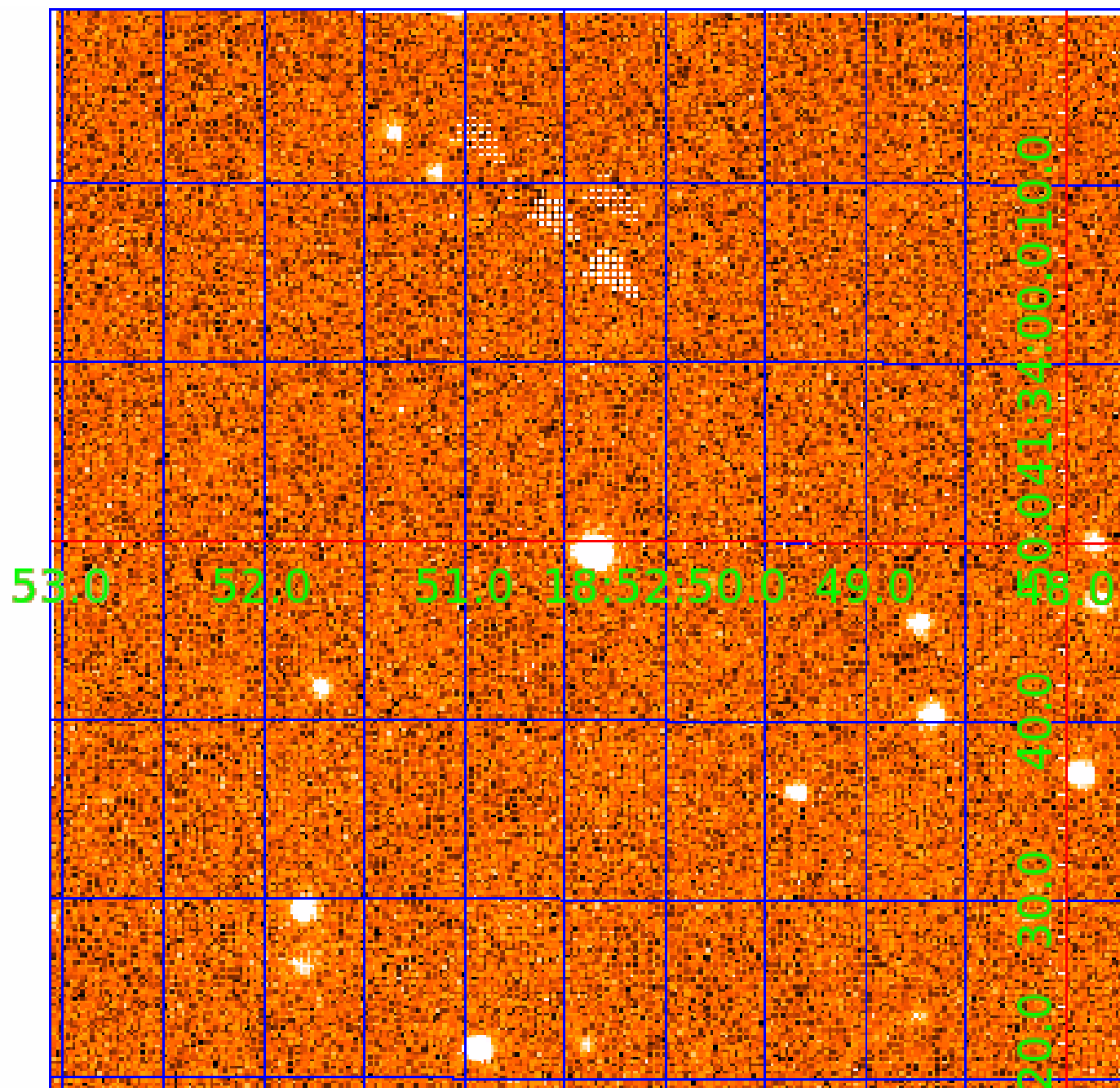


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 006183128

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006183128-01	OBS	No	48.863855	165.461002	286503.2	1.500	11569.5	-1.0	1.00	5780	54.56	14.61
006183128-02	OBS	No	113.489513	222.867411	6654.5	2.441	62.3	0.7	1.00	5780	8.09	4.75
006183128-03	OBS	No	0.561950	131.724734	7.8	4.017	61.8	0.0	1.00	5780	0.30	5627.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006183128-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS
006183128-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006183128-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

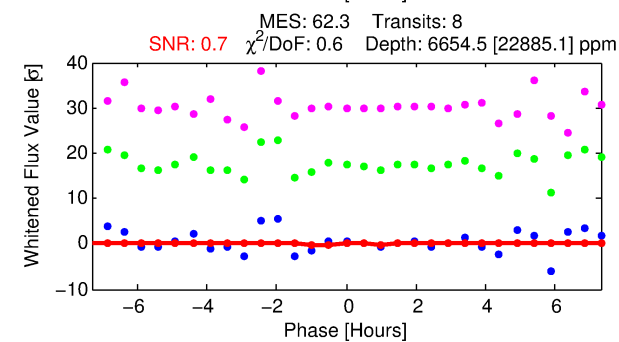
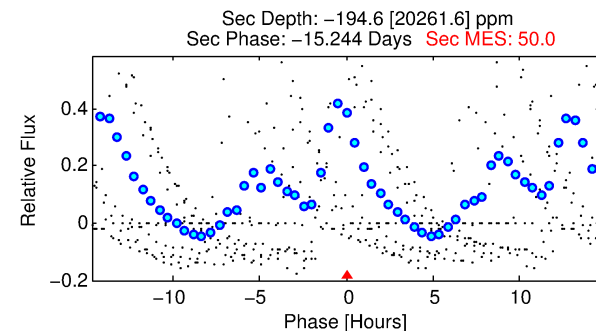
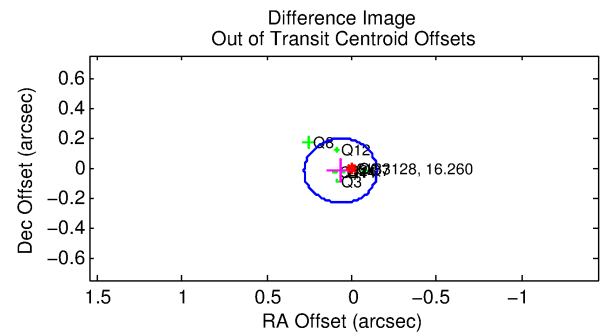
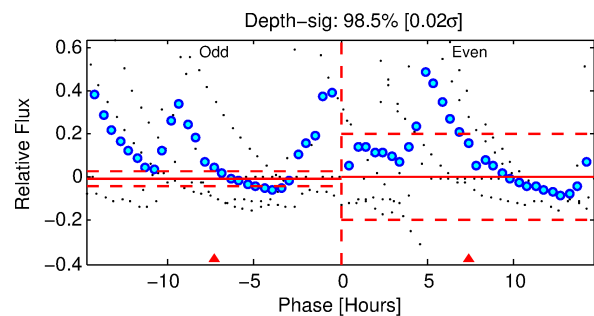
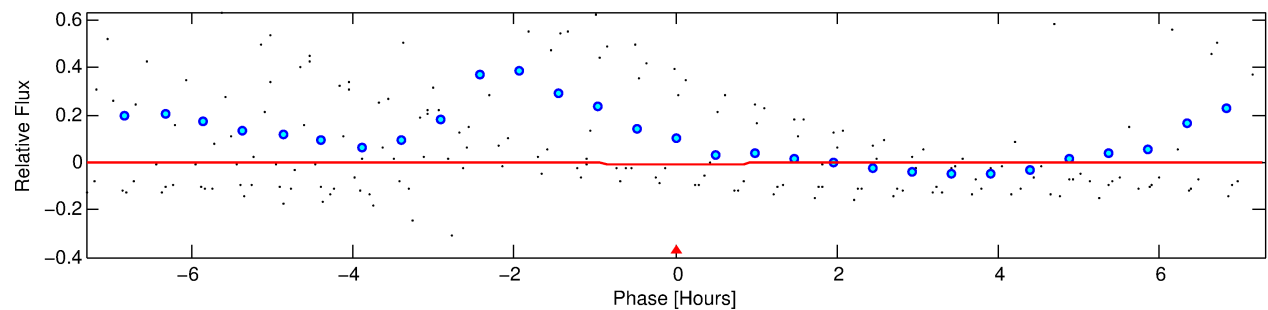
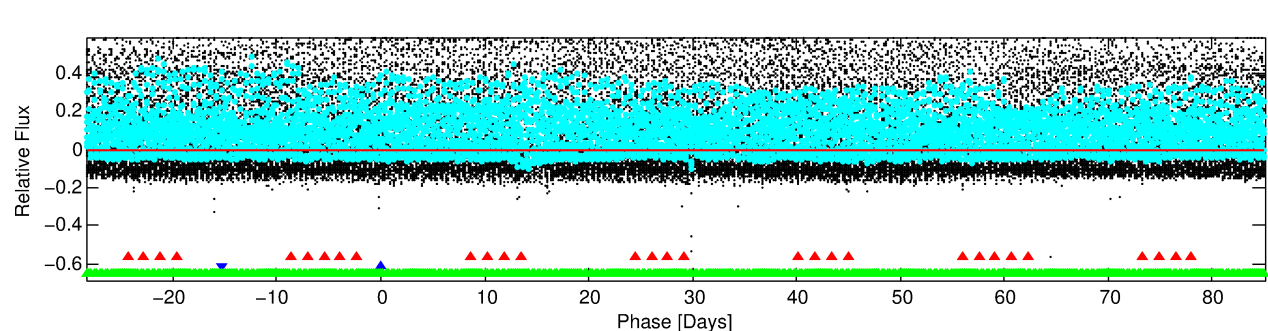
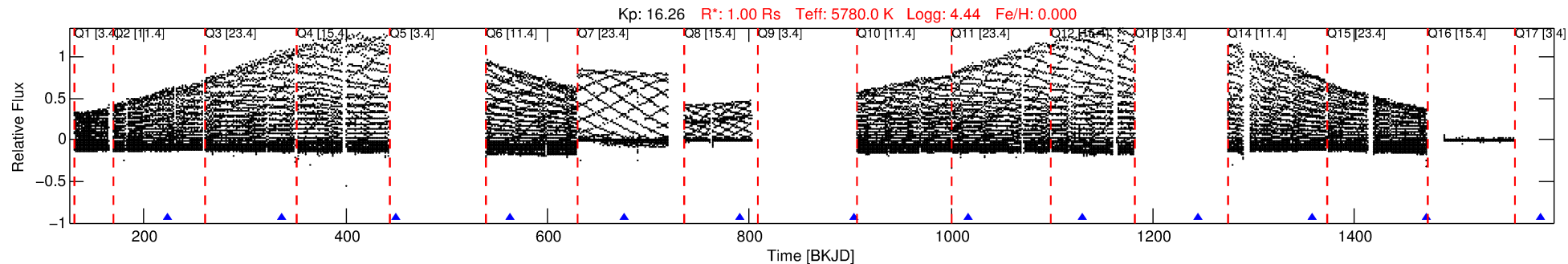
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006183128-02

No Significant Match Found

# DV One-Page Summary

KIC: 6183128 Candidate: 2 of 3 Period: 113.490 d



## DV Fit Results:

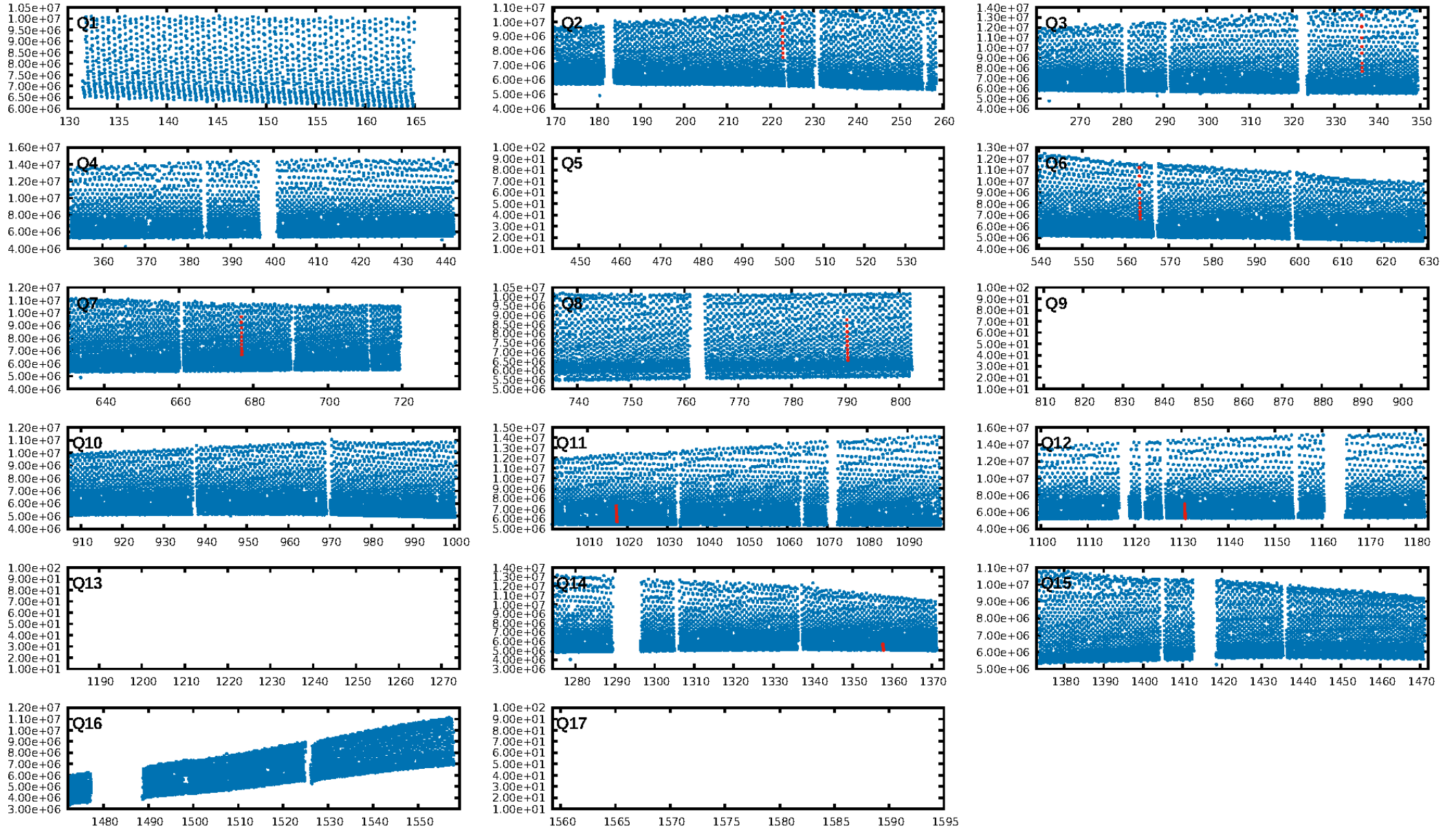
Period = 113.48951 [0.00812] d  
Epoch = 222.8674 [0.0389] BKJD  
Rp/R\* = 0.0742 [0.4705]  
a/R\* = 379.88 [8378.47]  
b = 0.10 [222.26]  
Seff = 4.75 [0.00]  
Teq = 376 [0] K  
Rp = 8.09 [51.34] Re  
a = 0.4588 [0.0000] AU  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

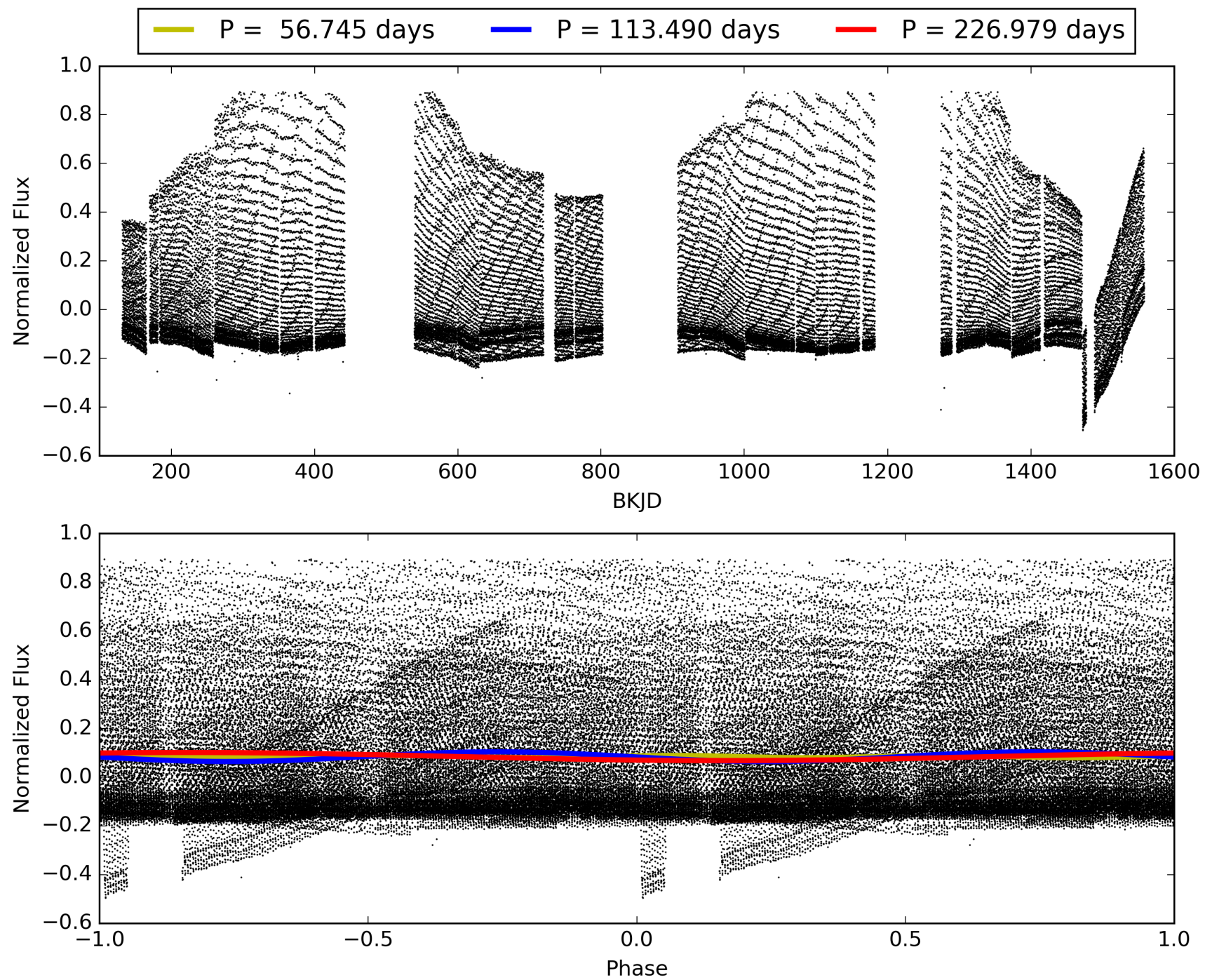
ShortPeriod-sig: 100.0% [541.36 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 79.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [8/8]  
GhostDiagnostic-chr: 0.9932  
Centroid-sig: N/A  
Centroid-so: 0.348 arcsec [0.71 $\sigma$ ]  
OotOffset-rm: 0.070 arcsec [0.97 $\sigma$ ]  
KicOffset-rm: 0.041 arcsec [0.53 $\sigma$ ]  
OotOffset-st: 3/3/2/0 [8]  
KicOffset-st: 3/3/2/0 [8]  
DiffImageQuality-fgm: 0.50 [4/8]  
DiffImageOverlap-fno: 0.00 [0/8]



# TCE 006183128-02, PDC Light Curves

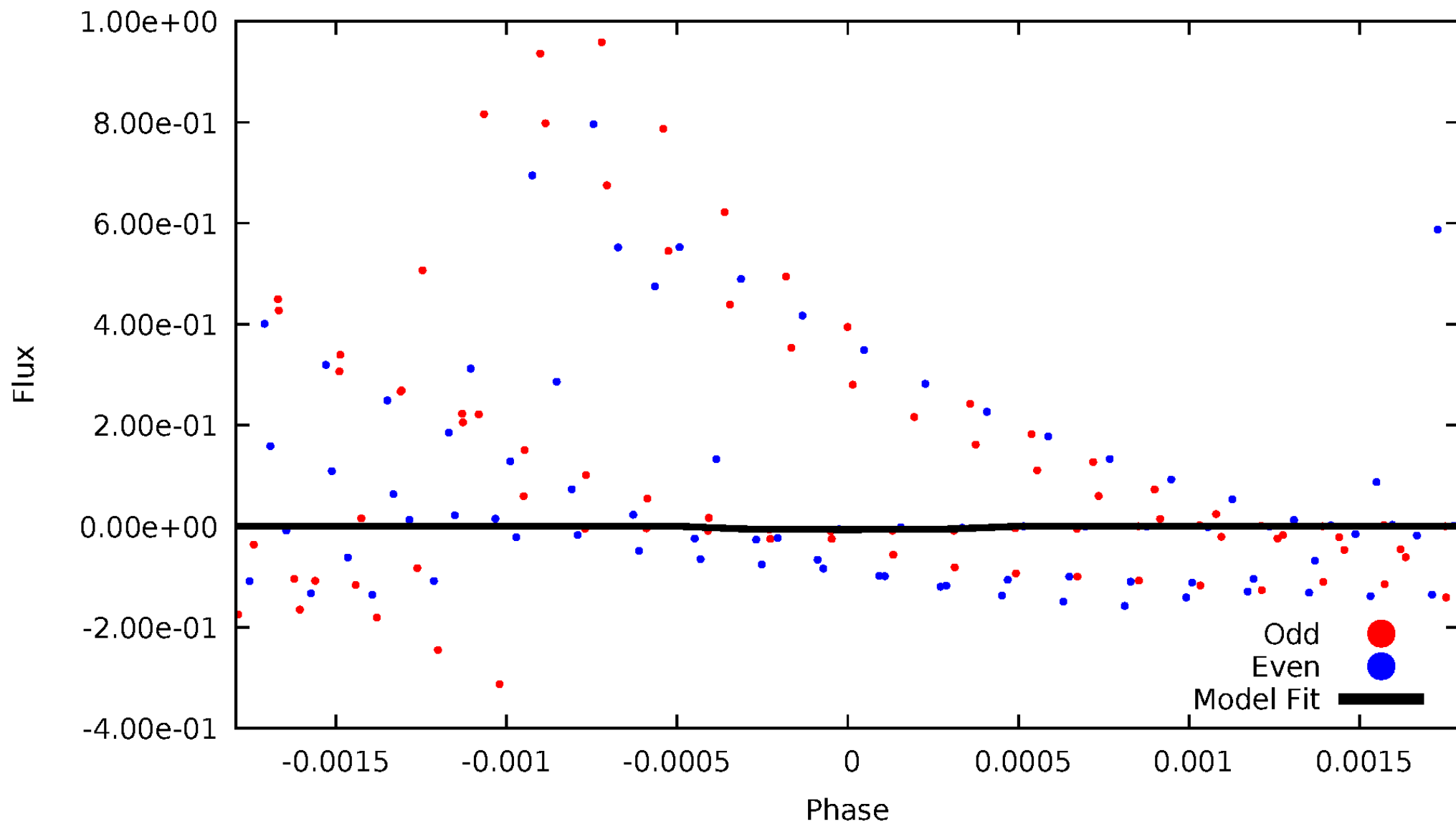


TCE 006183128-02



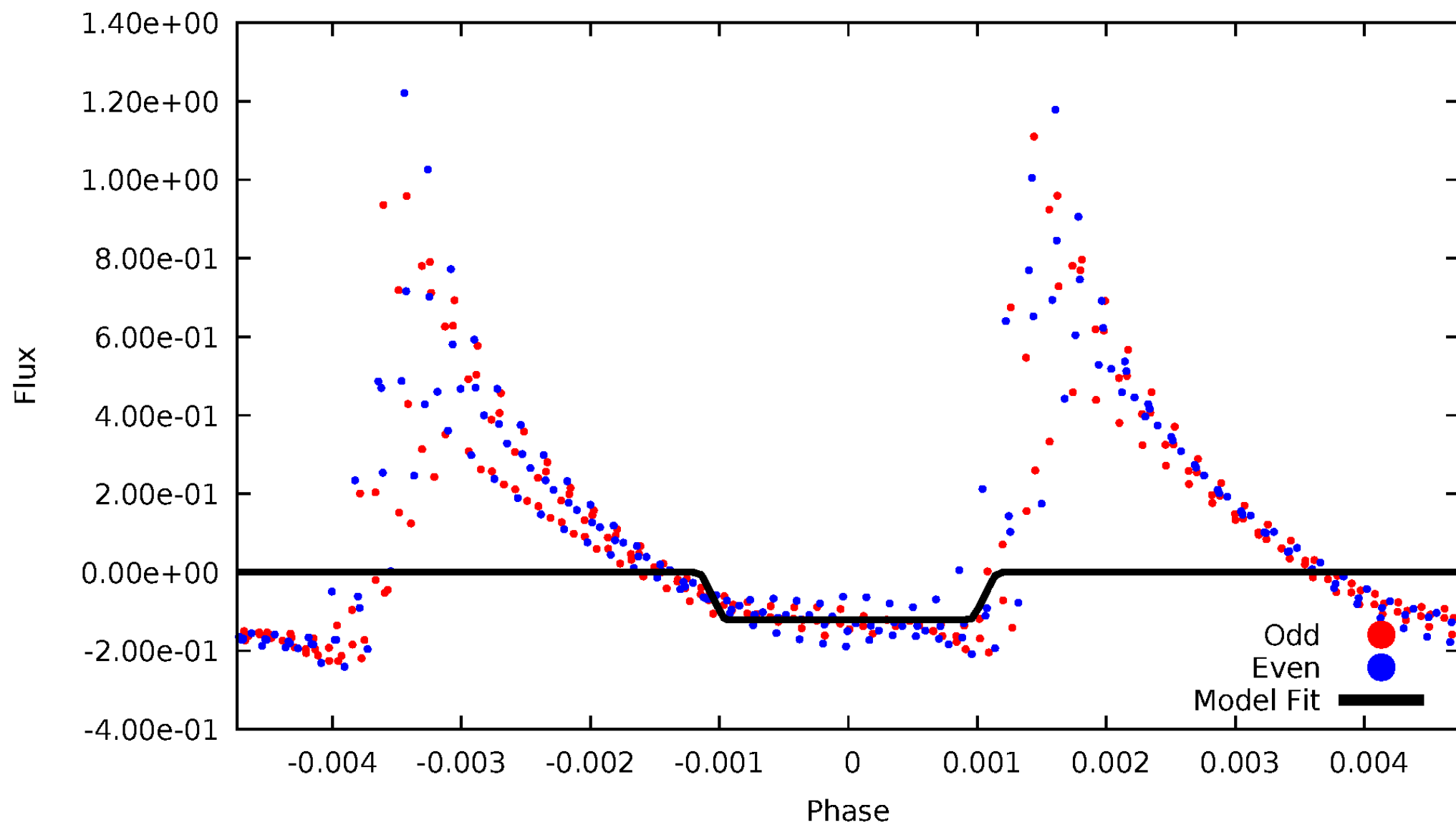
# DV Odd/Even

TCE 006183128-02



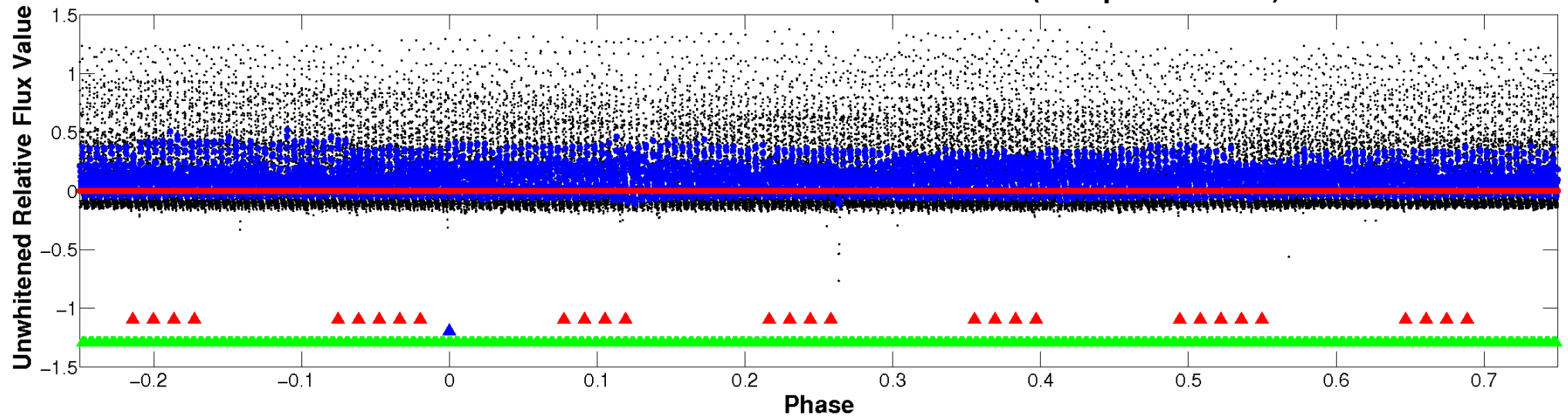
# ALT Odd/Even

TCE 006183128-02

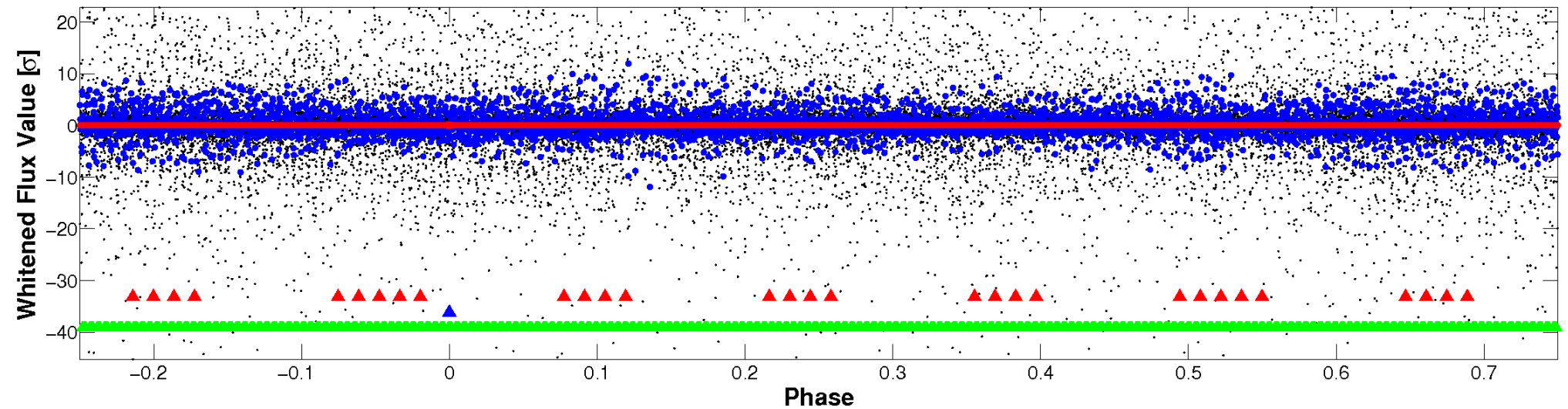


# Non-Whitened Vs. Whitened Light Curve

## Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

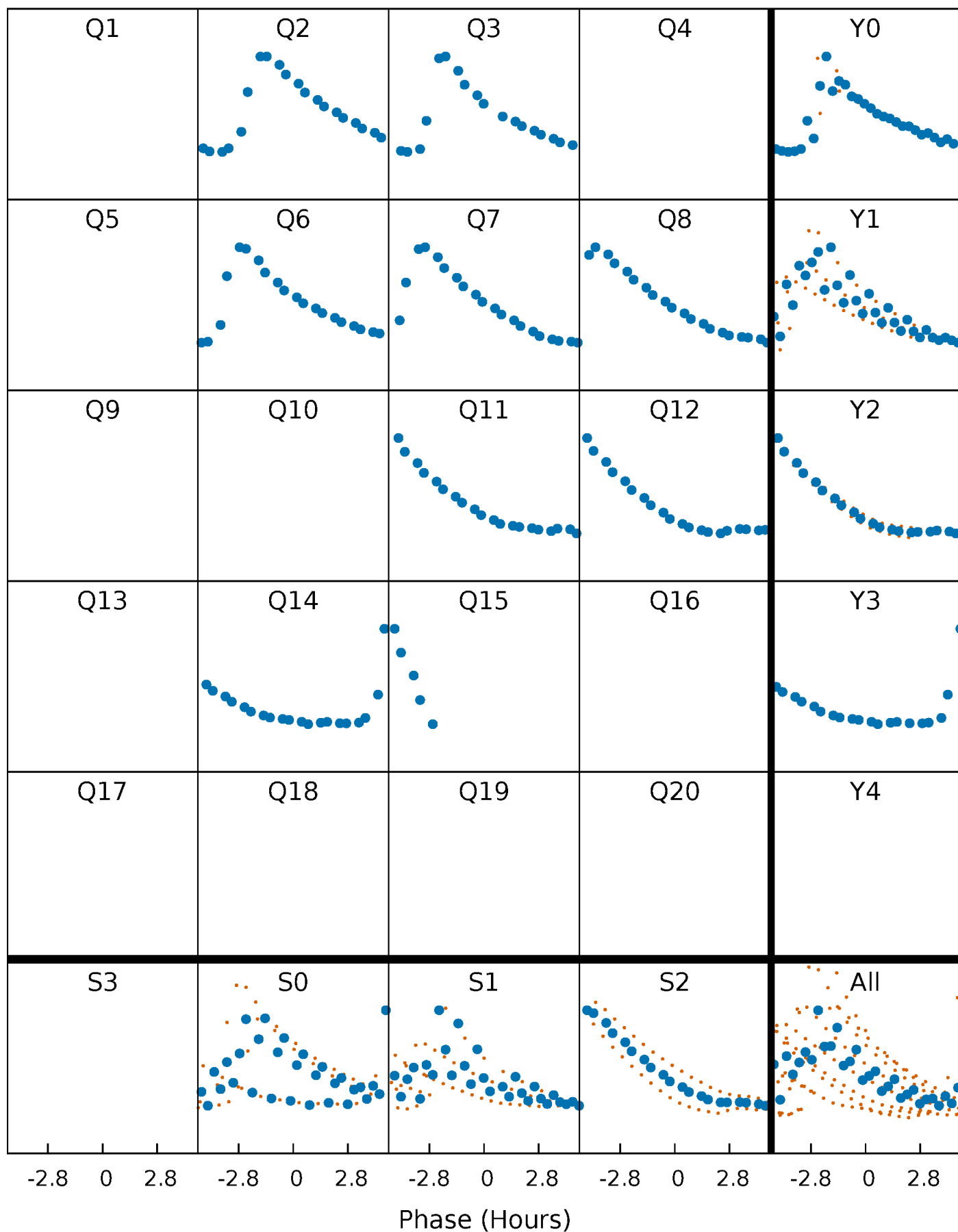


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

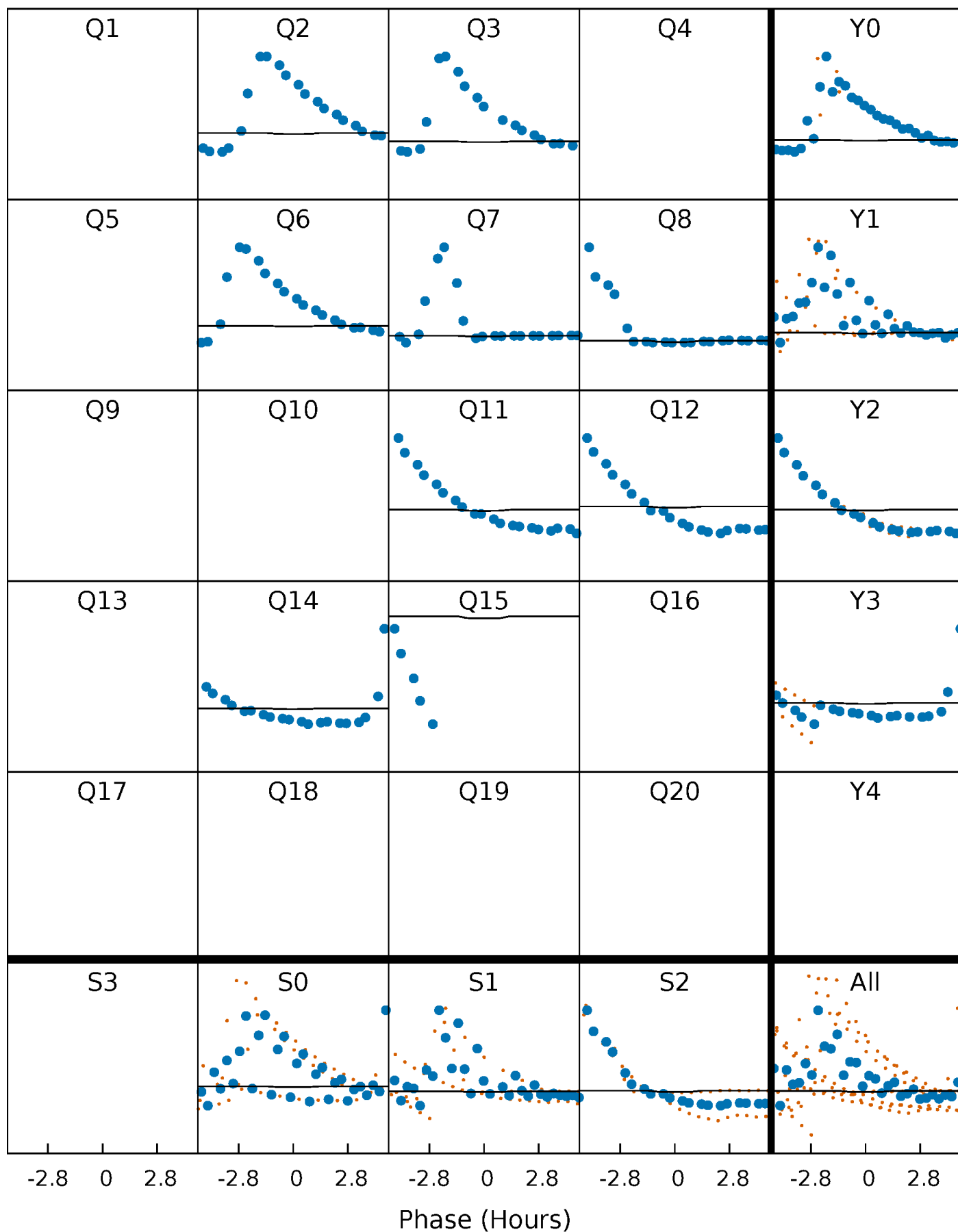
TCE 006183128-02 P=113.489513 Days  $T_0=222.867411$  (BKJD)





# DV Quarter-Phased Transit Curves

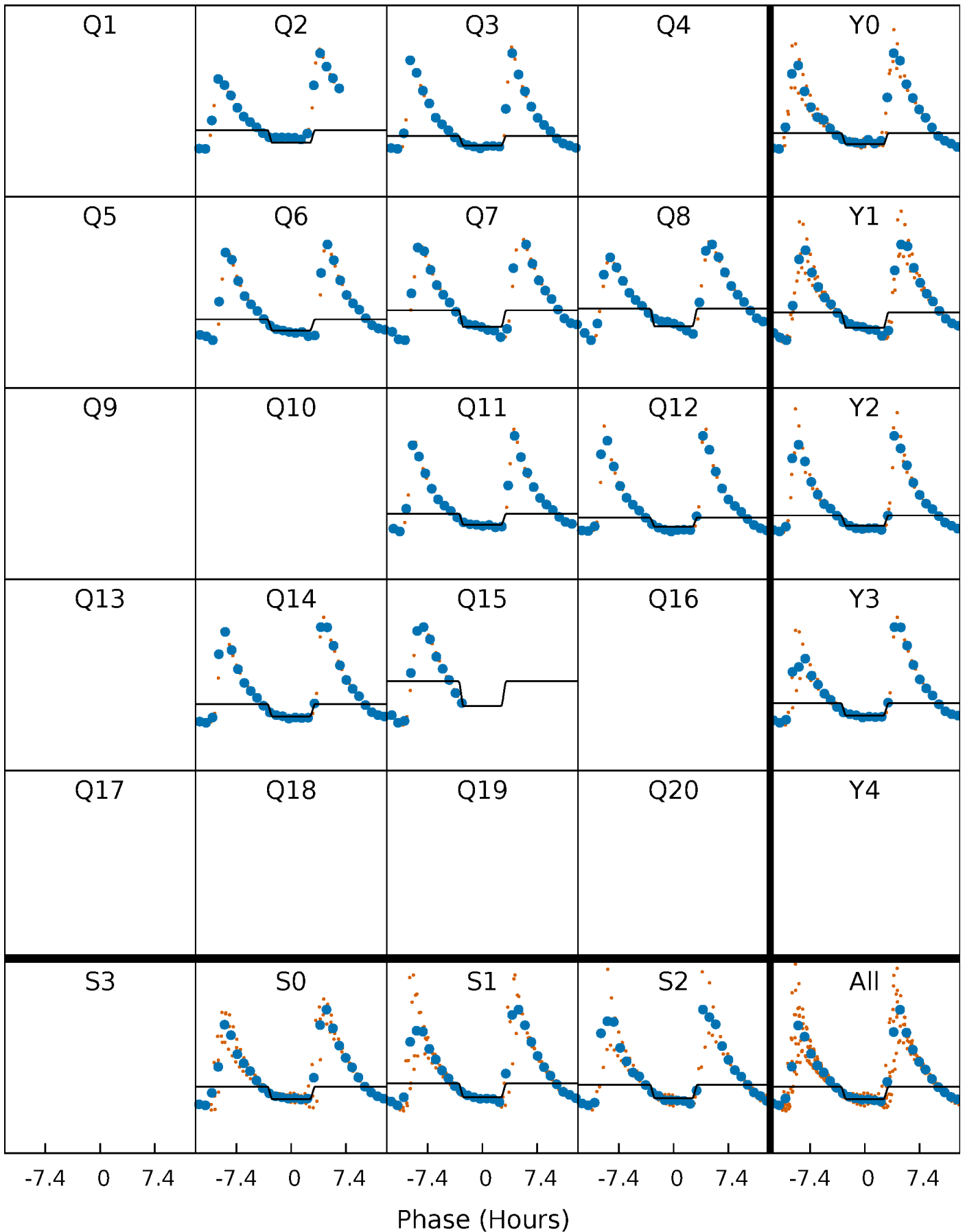
TCE 006183128-02 P=113.489513 Days  $T_0=222.867411$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

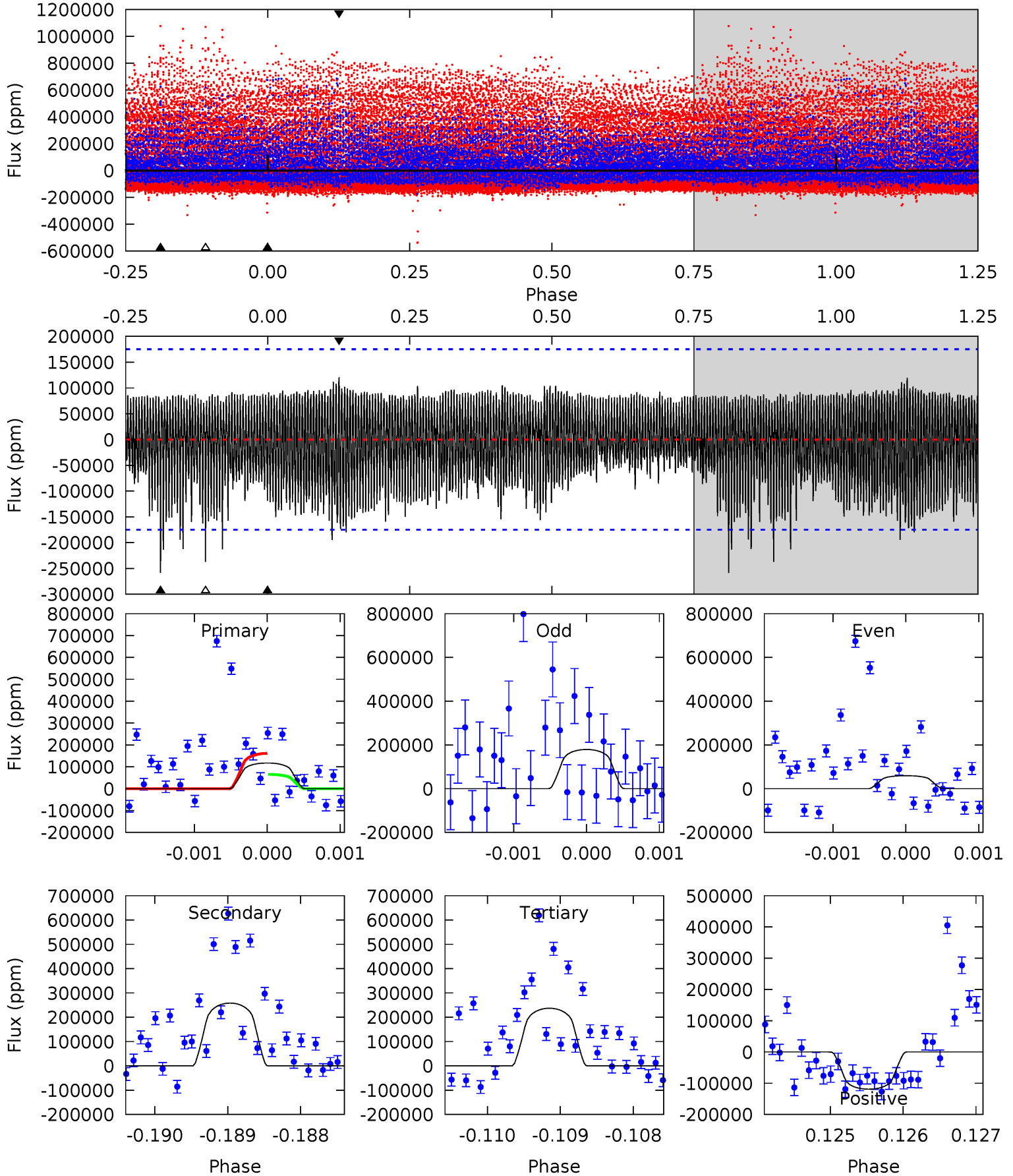
TCE 006183128-02 P=113.459165 Days  $T_0=223.204346$  (BKJD)



# DV Model-Shift Uniqueness Test

006183128-02, P = 113.489513 Days, E = 109.377898 Days

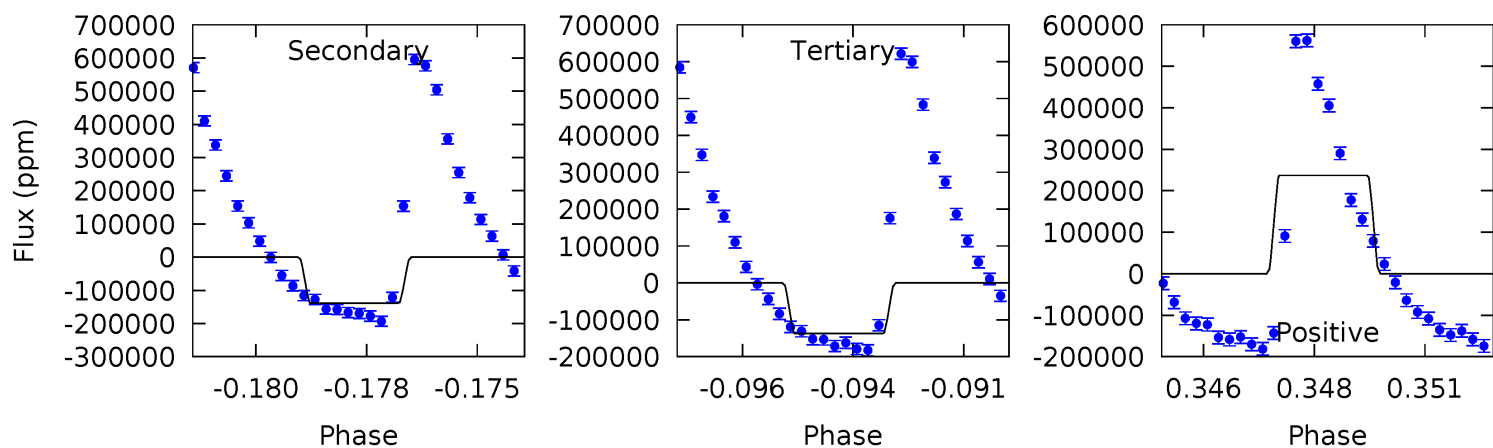
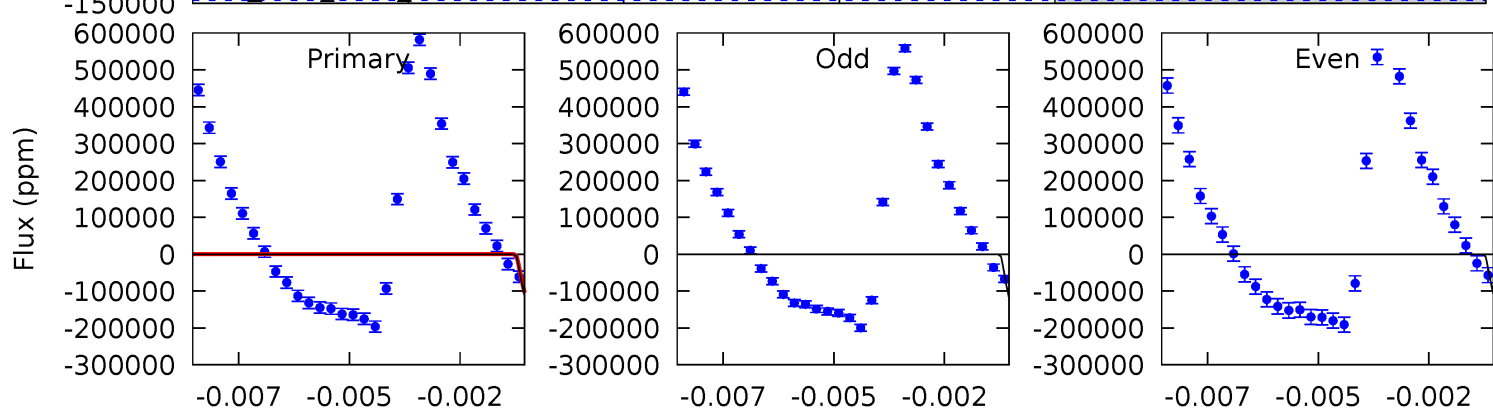
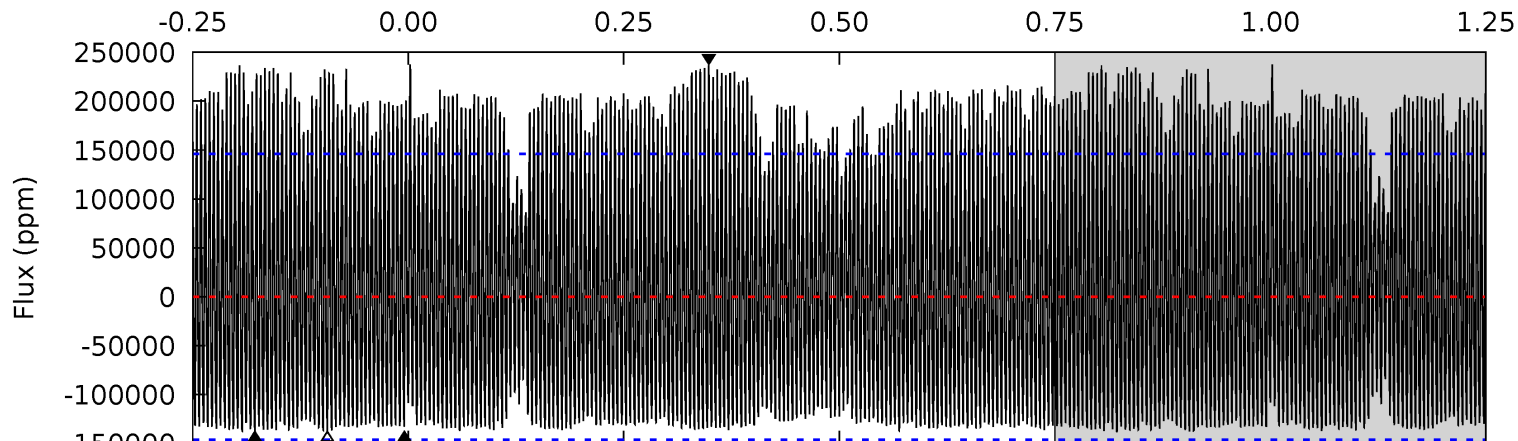
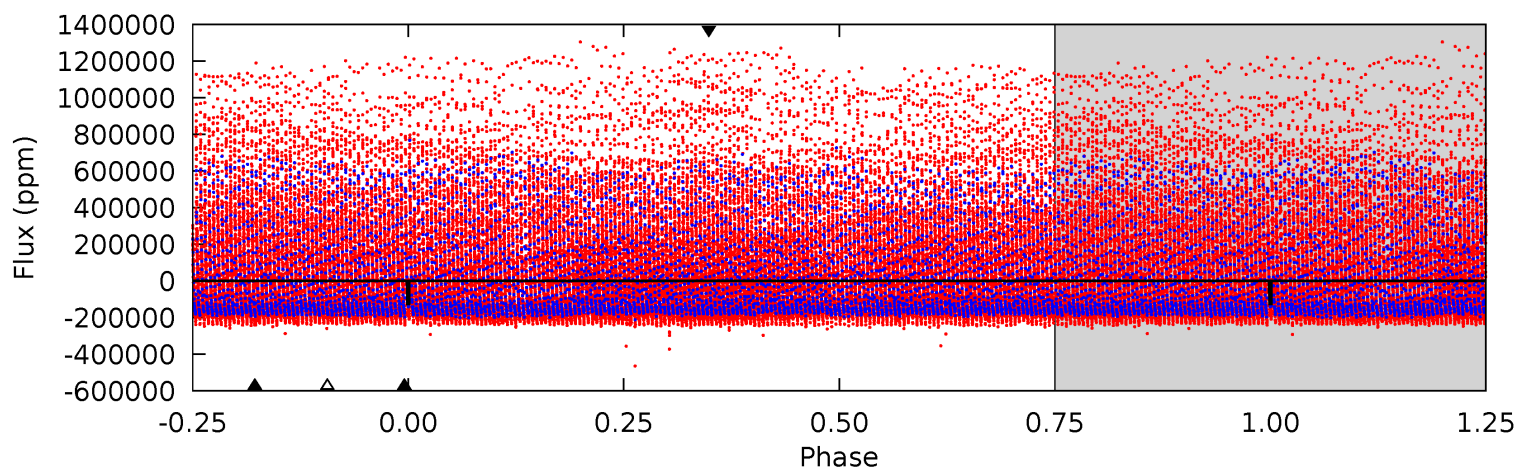
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.66	8.05	7.38	3.71	5.45	3.28	1.90	-3.73	-0.05	0.66	4.34	1.78	-584.8	0.32	1.53



# Alt Model-Shift Uniqueness Test

006183128-02, P = 113.459165 Days, E = 109.745181 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.48	5.02	4.98	8.59	5.30	3.04	4.01	-0.49	-4.11	0.04	-3.57	0.16	0.95	0.63	0.42



### Stellar Parameters For KIC 006183128

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006183128-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-258355 \pm 32113$	$38.29^{+37.12}_{-27.47}$	$527^{+26}_{-25}$	$7640^{+13268}_{-2346}$	$27235^{+319559}_{-20385}$
Alt.	$-138588 \pm 27594$	$55.76^{+44.89}_{-36.61}$	$526^{+24}_{-27}$	$5129^{+4342}_{-1072}$	$5884^{+47837}_{-4174}$

$T_{max}$  = Theoretical Maximum Planetary Temperature  
 $T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)  
 $A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

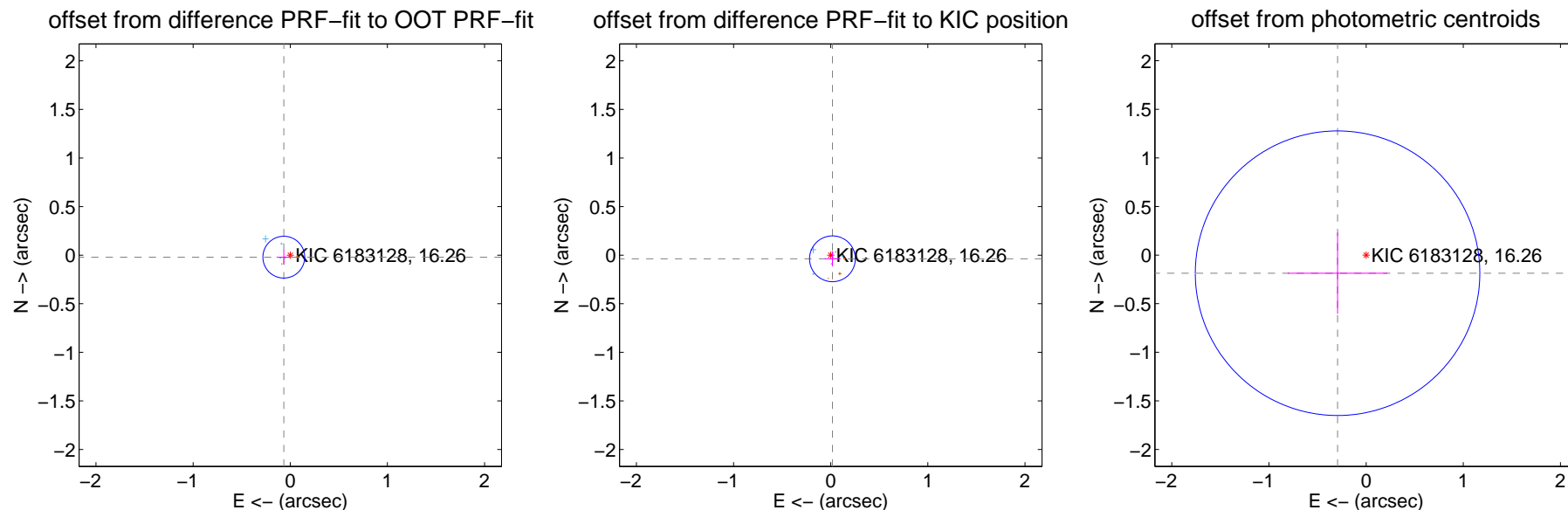
## DV Centroid Data

Supplemental centroid analysis for 006183128-02. Kepler magnitude: 16.26. Transit SNR 0.66

There are 4 quarters with good PRF difference image offsets

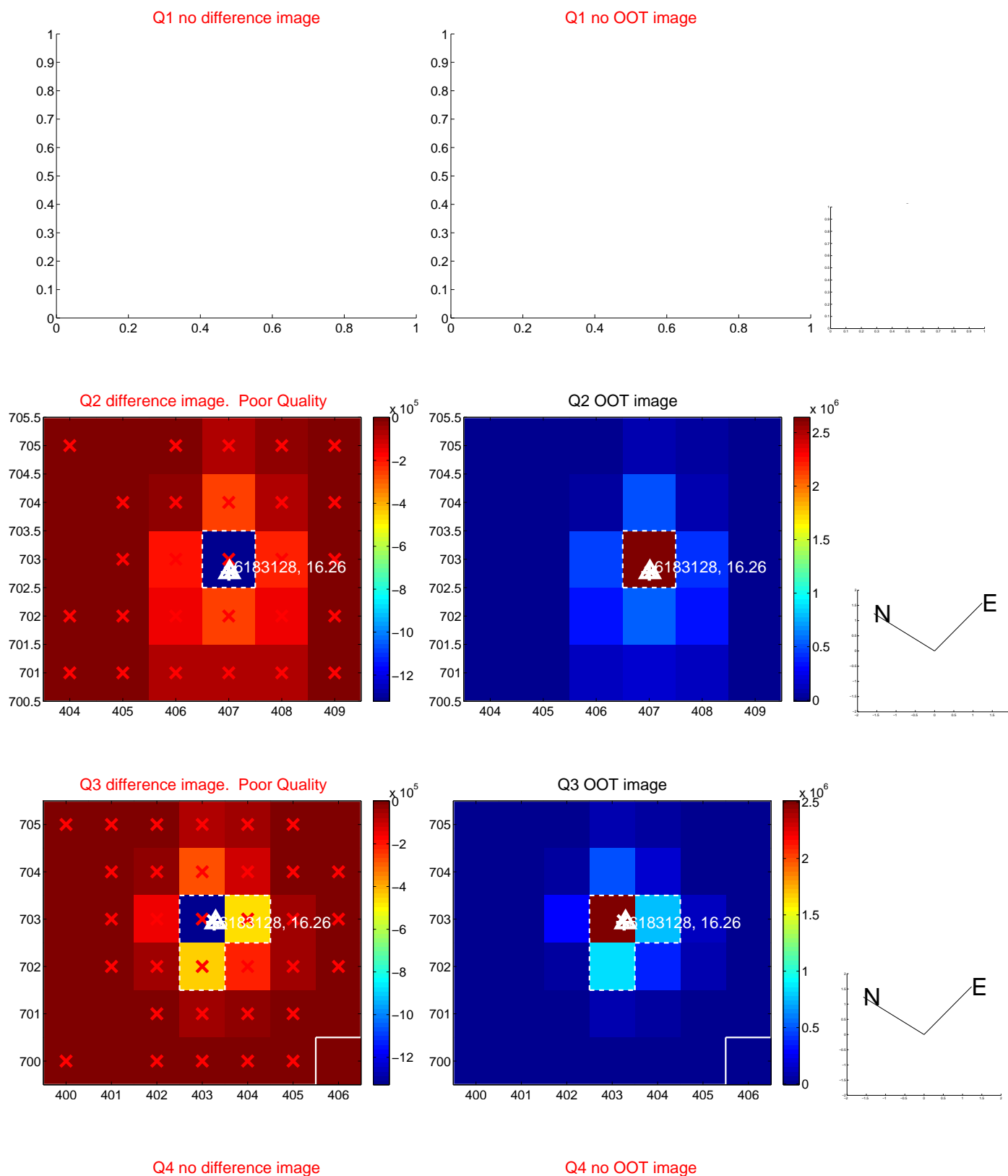
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.070 \pm 0.072$	0.97	$0.067 \pm 0.074$	$-0.021 \pm 0.073$
PRF-fit source offset from KIC position	$0.041 \pm 0.079$	0.53	$-0.018 \pm 0.081$	$-0.037 \pm 0.078$
photometric centroid source offset	$0.35 \pm 0.49$	0.71	$0.29 \pm 0.51$	$-0.19 \pm 0.42$

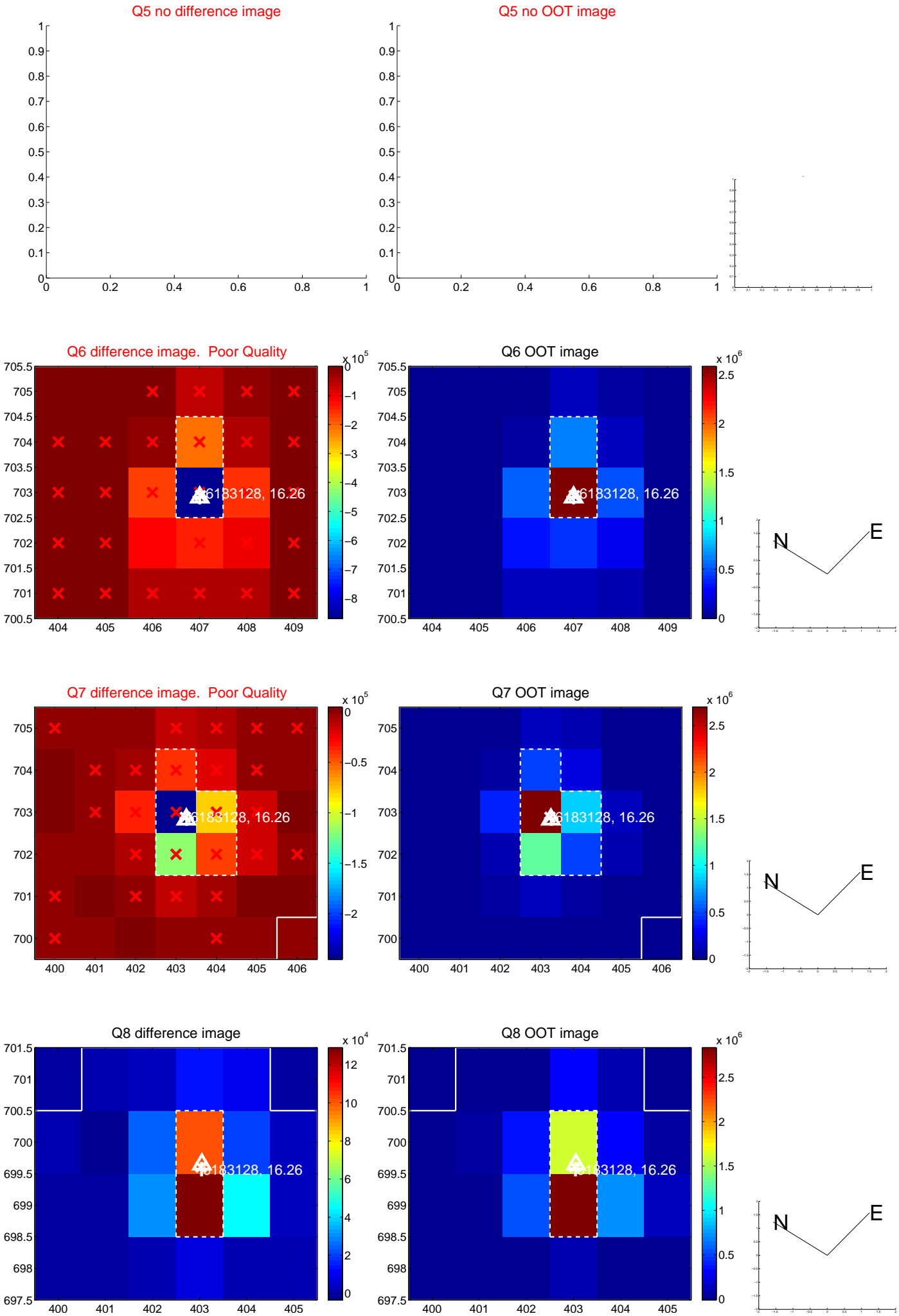


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

Q9 no difference image



Q9 no OOT image



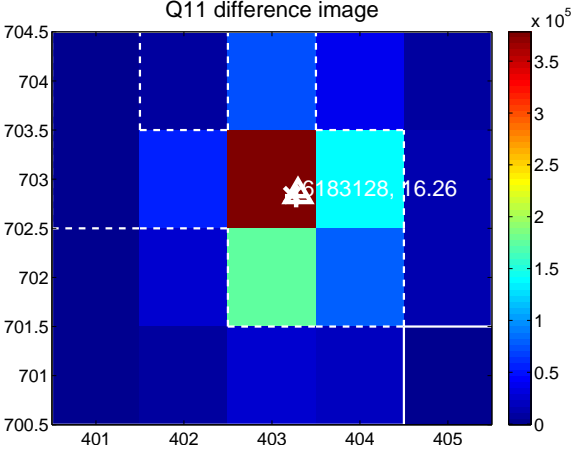
Q10 no difference image



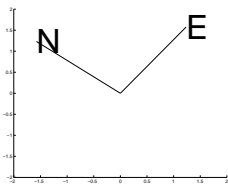
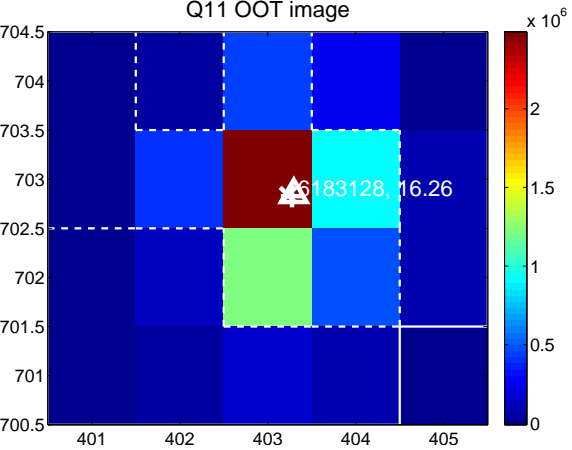
Q10 no OOT image



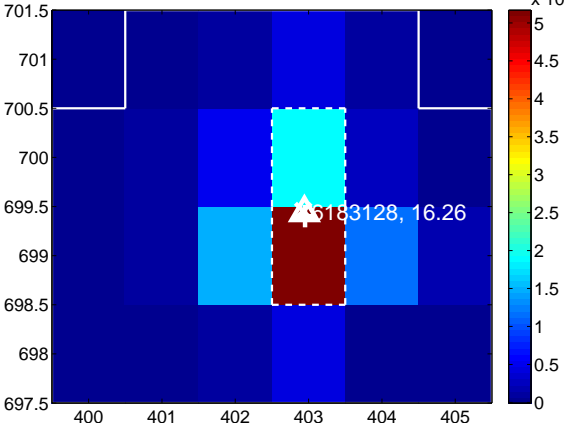
Q11 difference image



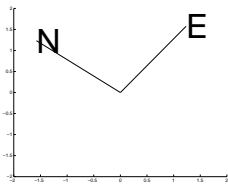
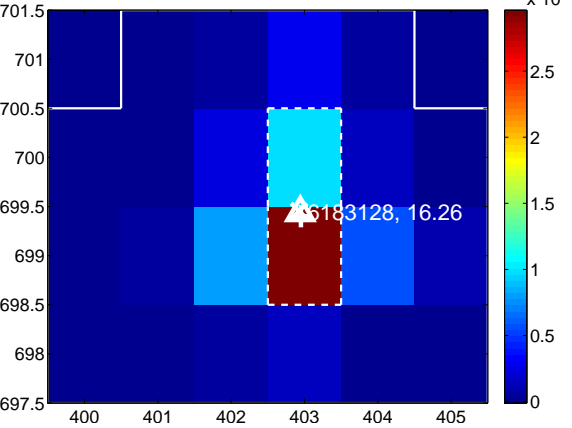
Q11 OOT image



Q12 difference image



Q12 OOT image



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

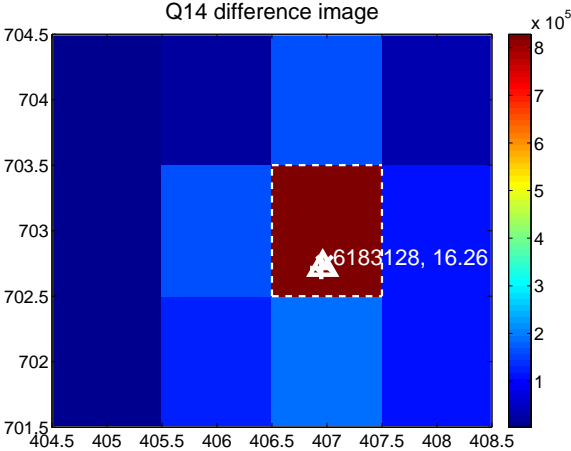
Q13 no difference image



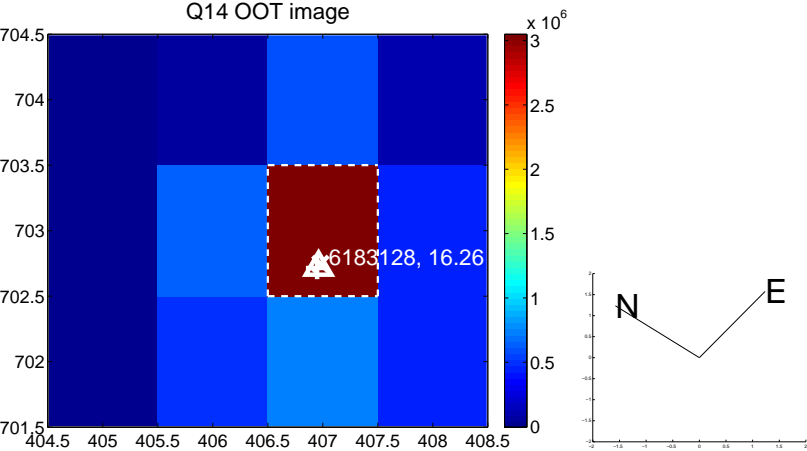
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



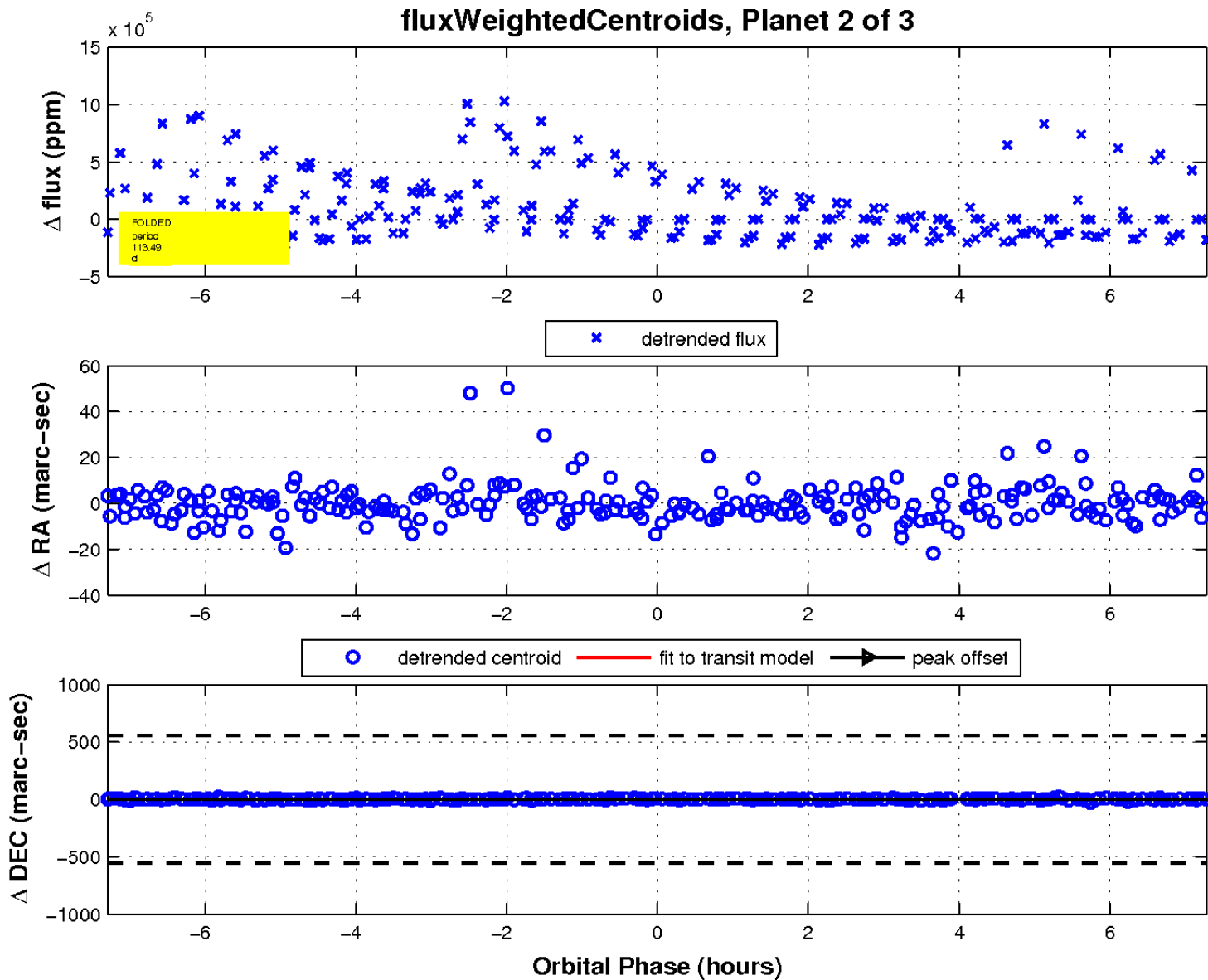
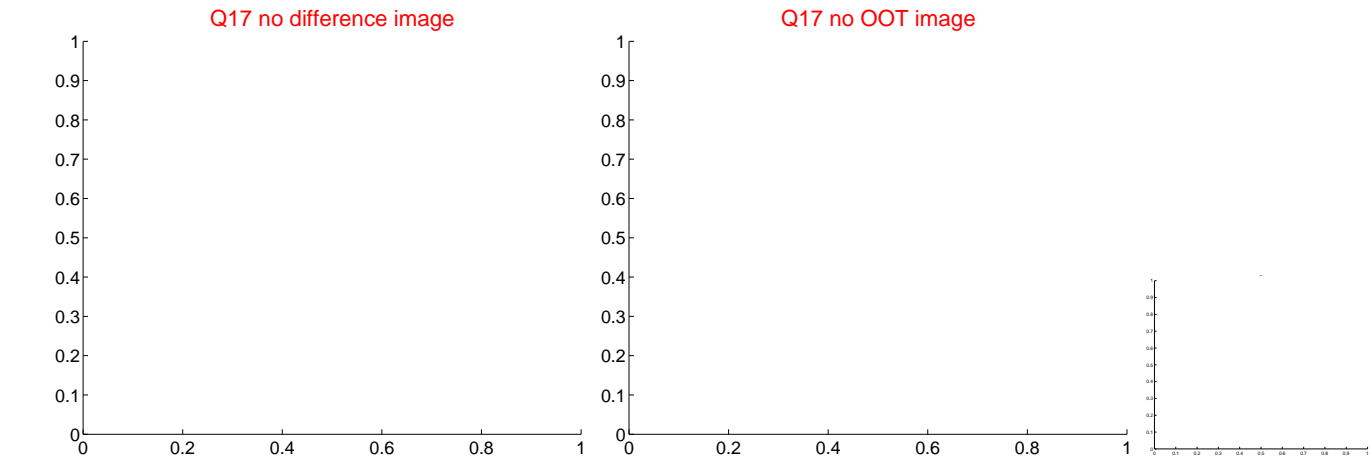
Q16 no difference image



Q16 no OOT image

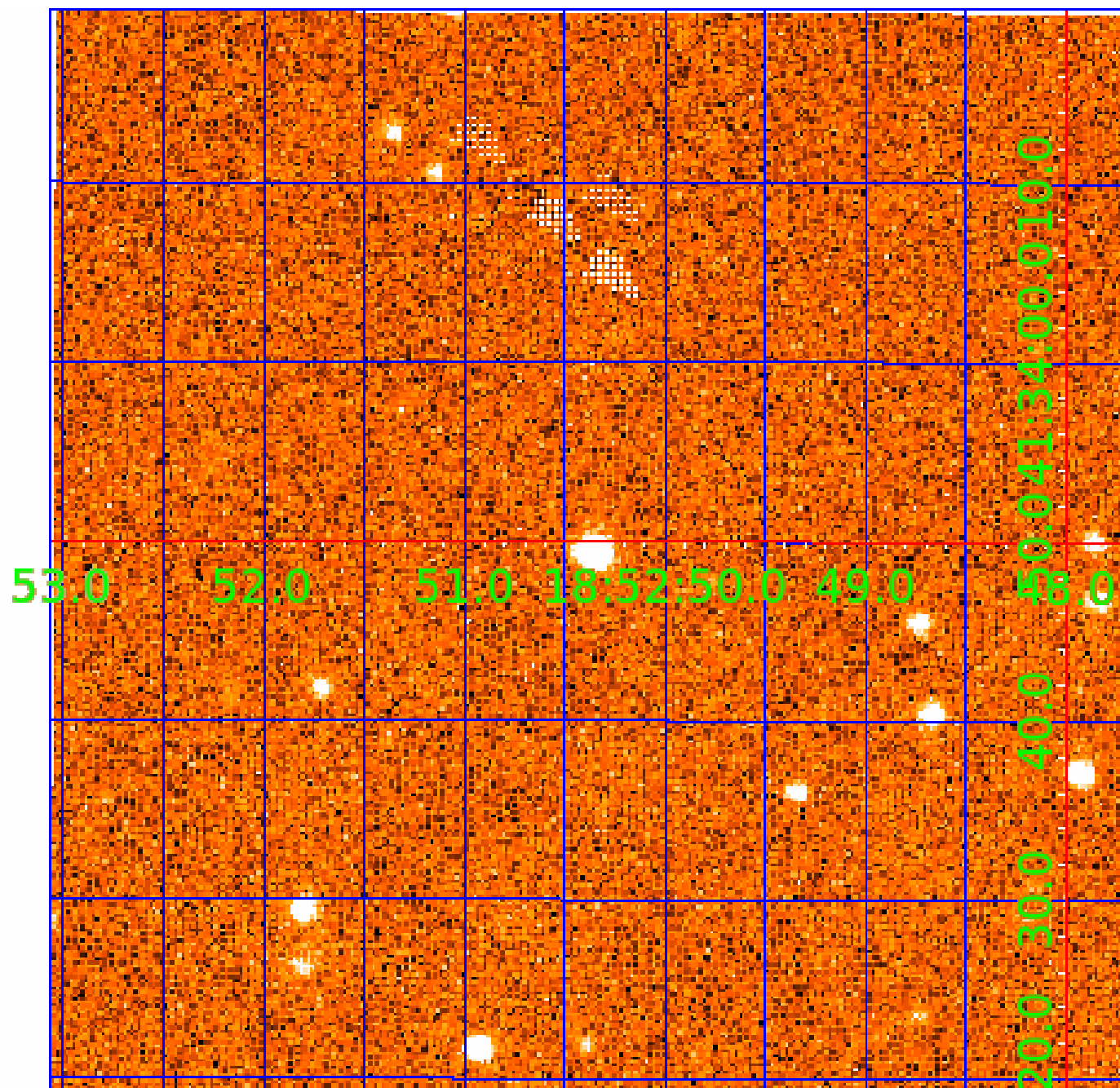


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 006183128

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006183128-01	OBS	No	48.863855	165.461002	286503.2	1.500	11569.5	-1.0	1.00	5780	54.56	14.61
006183128-02	OBS	No	113.489513	222.867411	6654.5	2.441	62.3	0.7	1.00	5780	8.09	4.75
006183128-03	OBS	No	0.561950	131.724734	7.8	4.017	61.8	0.0	1.00	5780	0.30	5627.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006183128-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS
006183128-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006183128-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

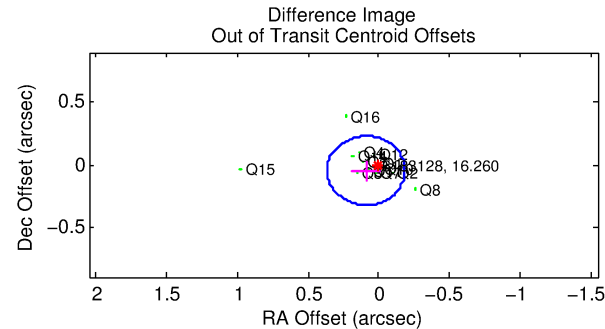
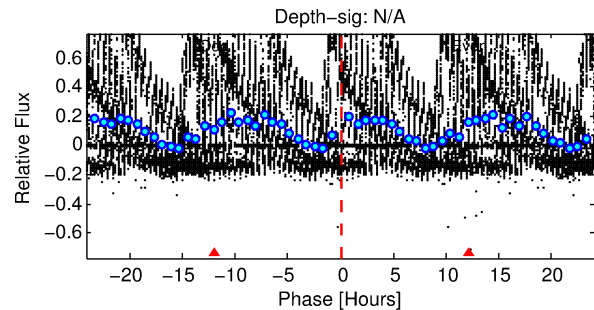
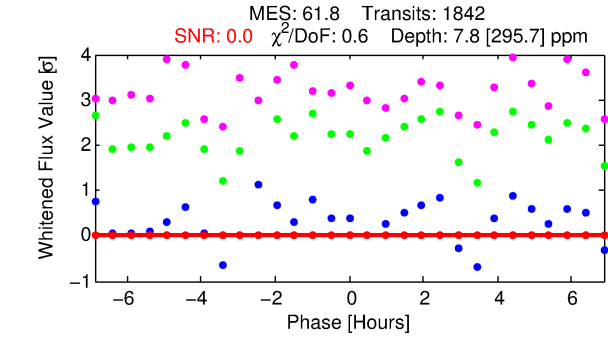
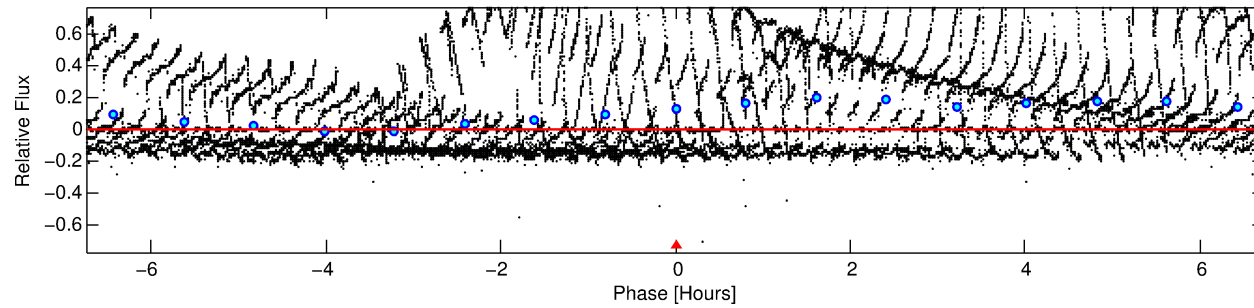
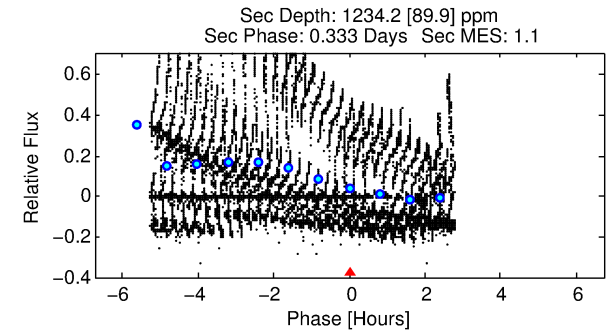
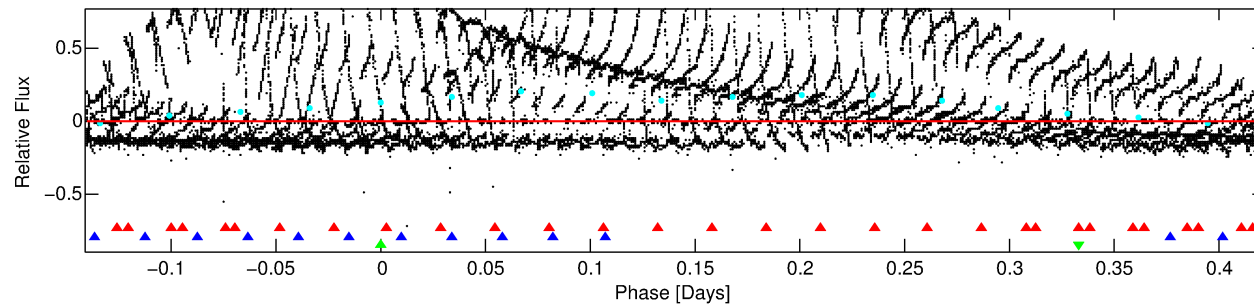
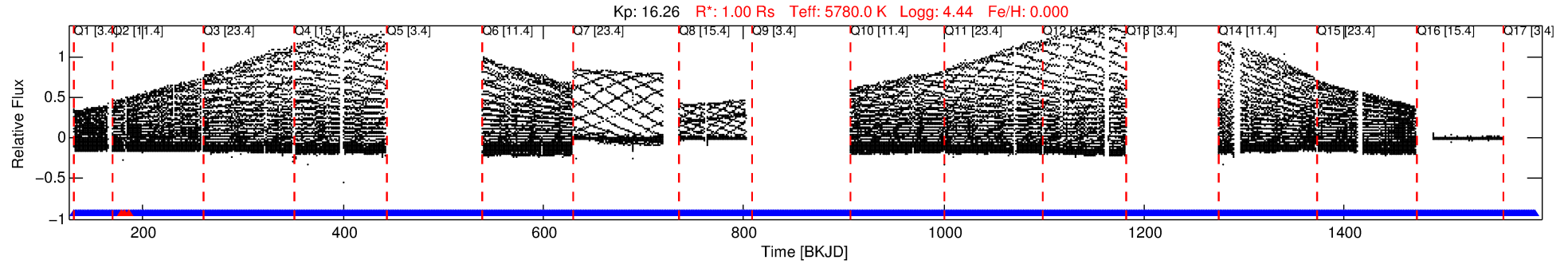
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006183128-03

No Significant Match Found

# DV One-Page Summary

KIC: 6183128 Candidate: 3 of 3 Period: 0.562 d



## DV Fit Results:

Period = 0.56195 [0.00276] d  
Epoch = 131.7247 [0.4972] BKJD  
Rp/R\* = 0.0028 [0.1415]  
a/R\* = 1.13 [54.20]  
b = 0.72 [155.30]  
Seff = 5627.85 [36.90]  
Teq = 2209 [4] K  
Rp = 0.30 [15.44] Re  
a = 0.0133 [0.0000] AU  
Ag = 1335.23 [137161.13] [0.01σ]  
Teffp = 20641 [530107] K [0.03σ]

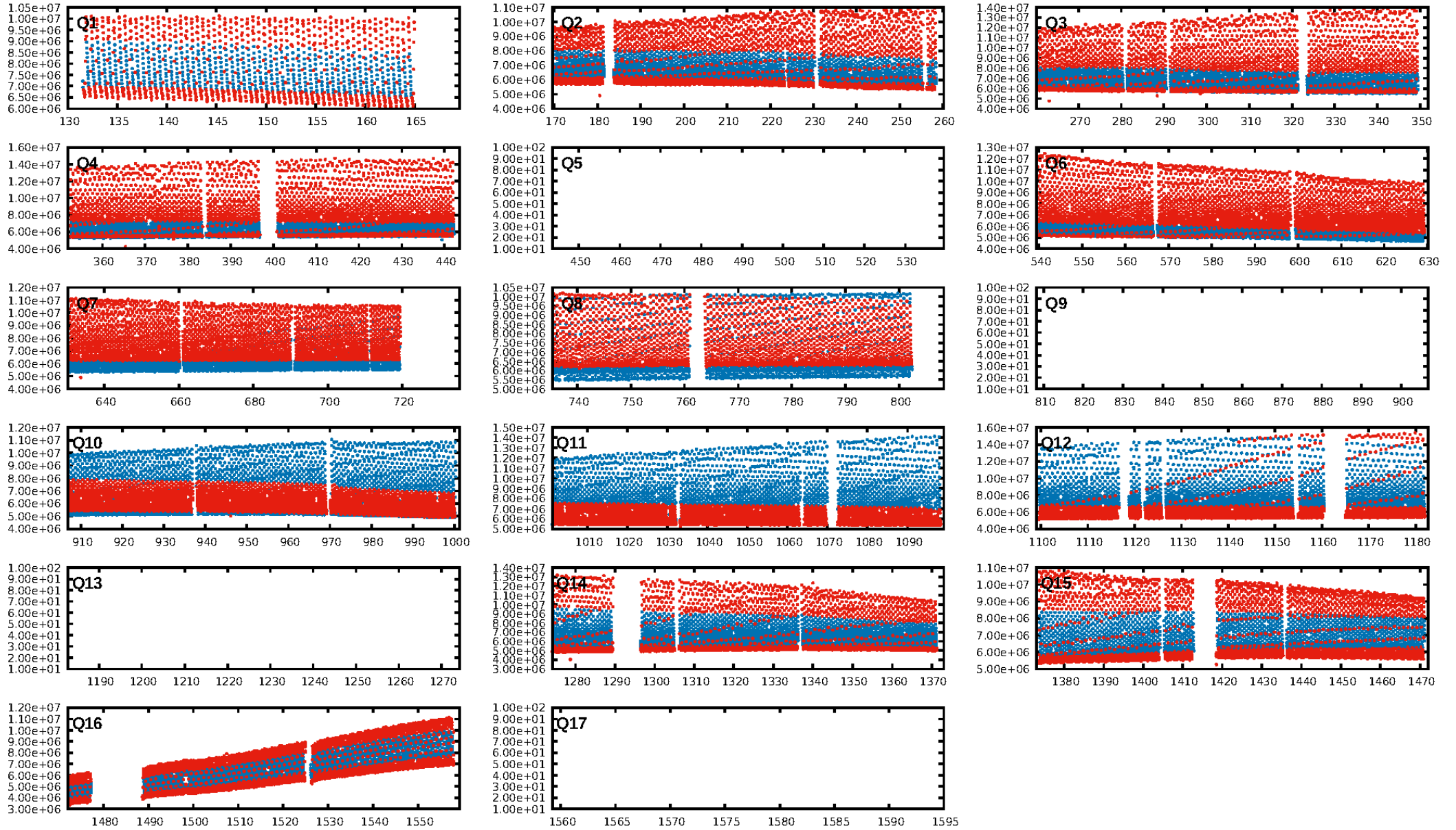
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [270.35σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1778/1782]  
GhostDiagnostic-chr: -0.9515  
Centroid-sig: N/A  
Centroid-so: 59.715 arcsec [2.82σ]  
OotOffset-rm: 0.103 arcsec [1.12σ]  
KicOffset-rm: 0.130 arcsec [1.52σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 0.38 [5/13]  
DiffImageOverlap-fno: 1.00 [13/13]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:43:33 Z

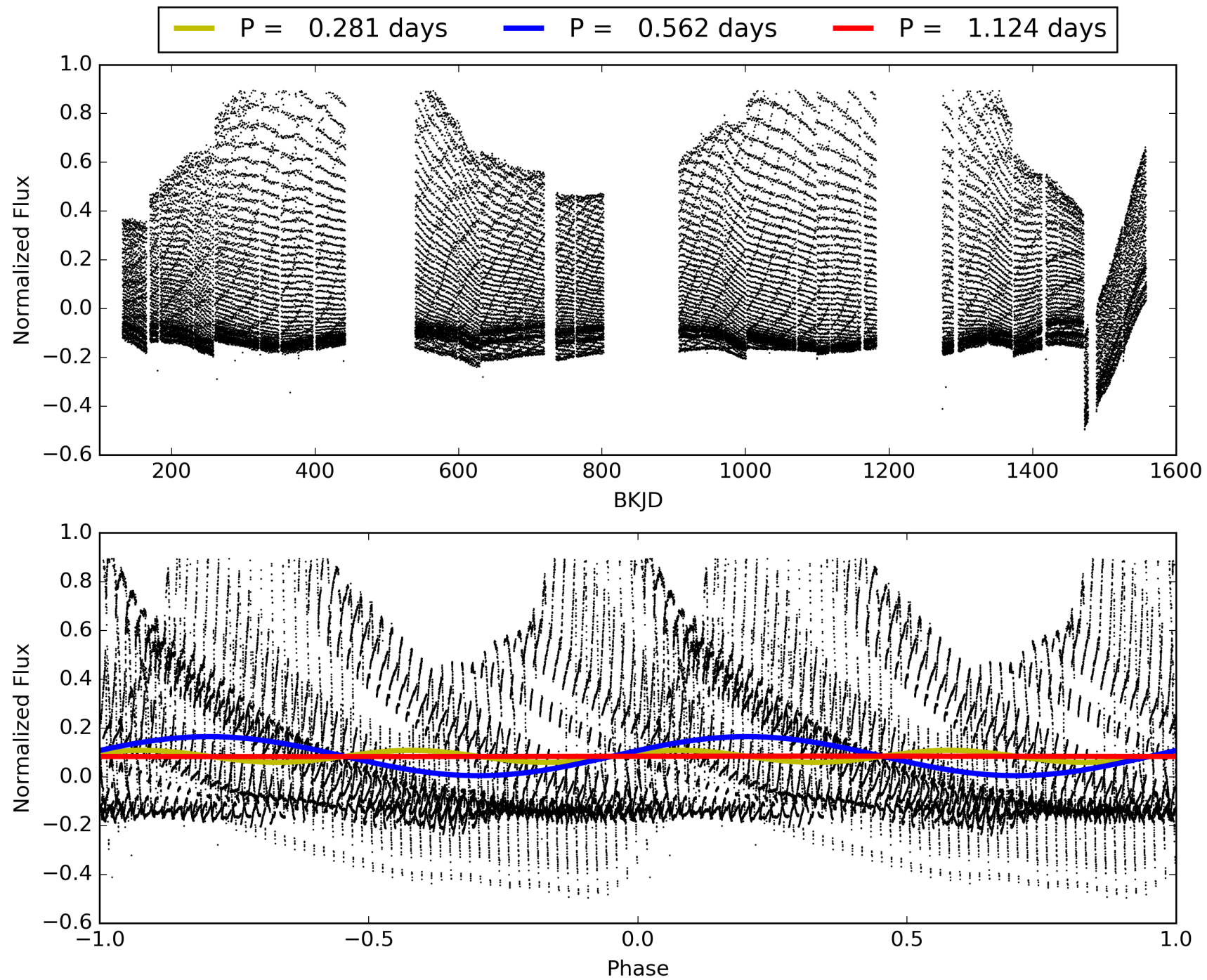
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006183128-03, PDC Light Curves





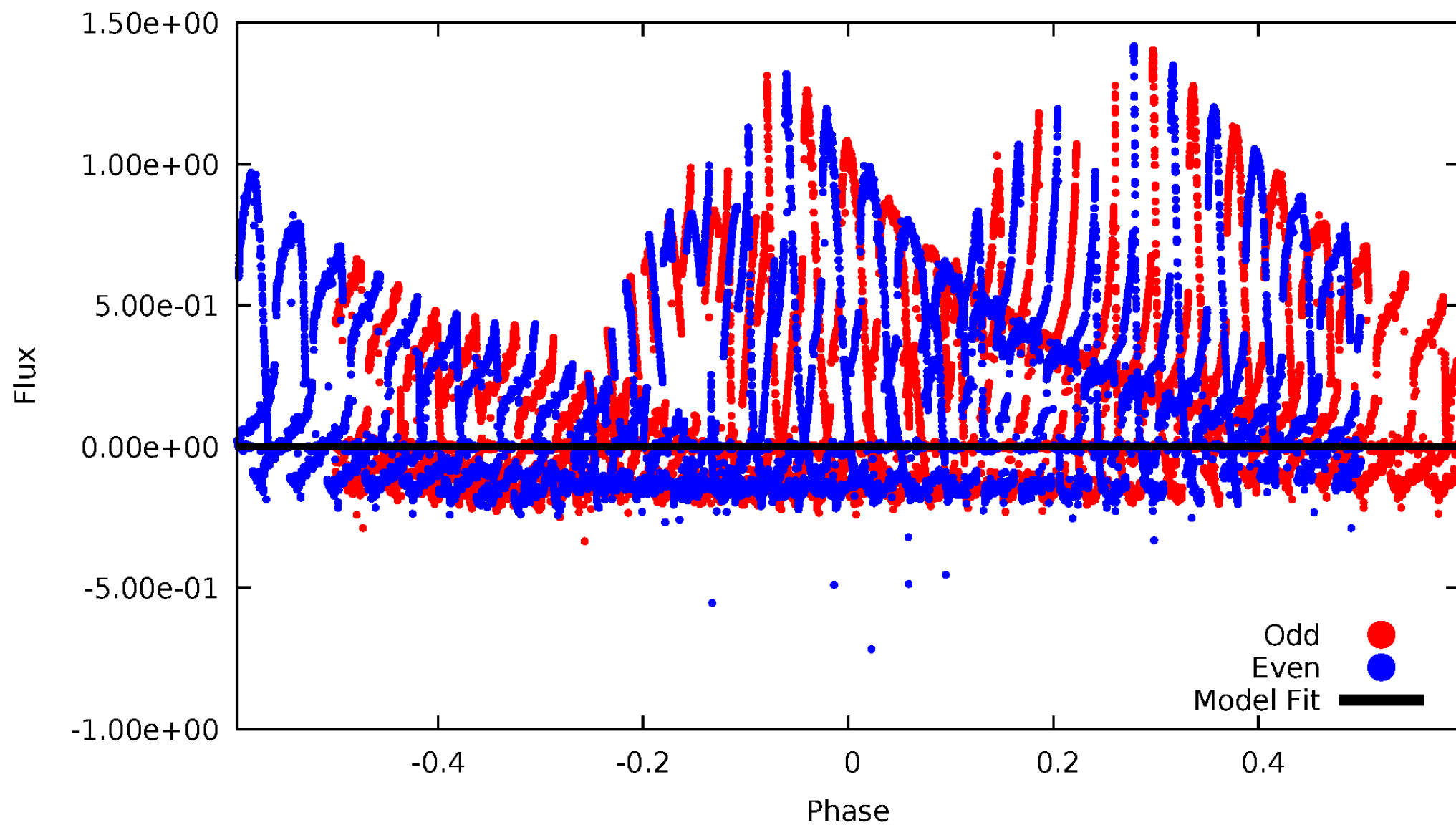
TCE 006183128-03





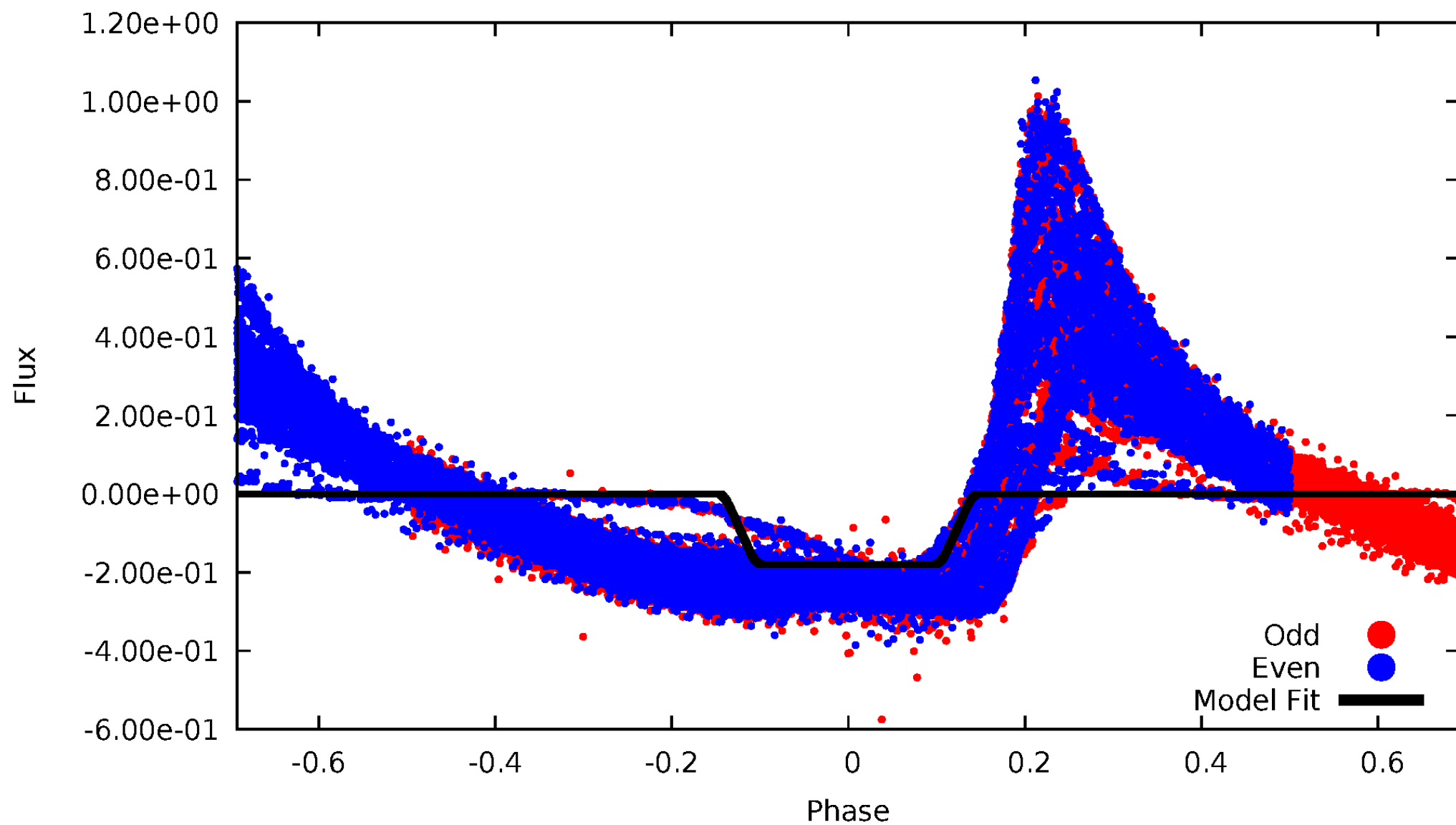
# DV Odd/Even

TCE 006183128-03



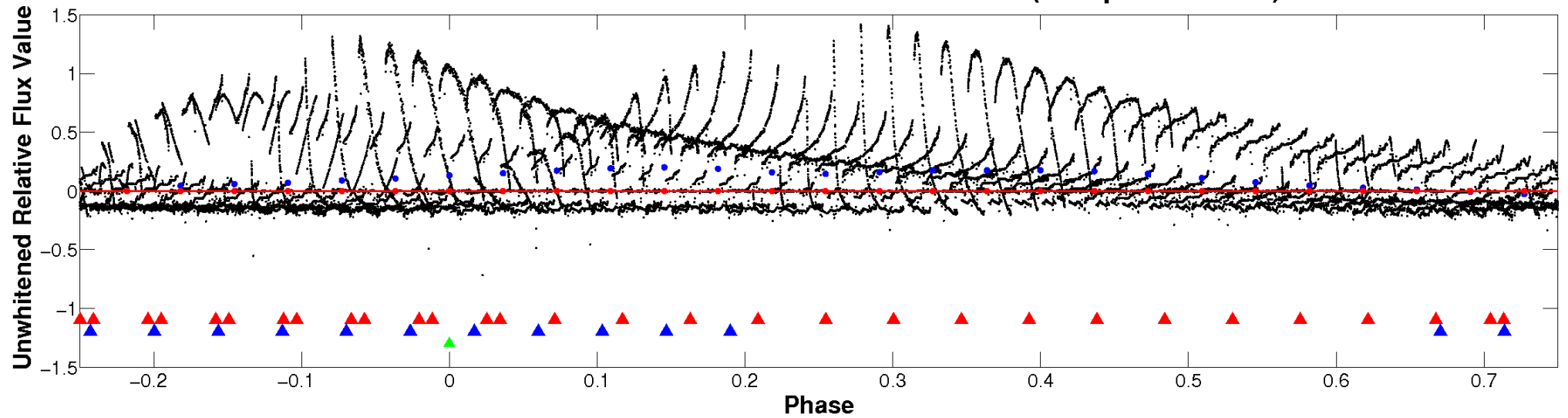
# ALT Odd/Even

TCE 006183128-03

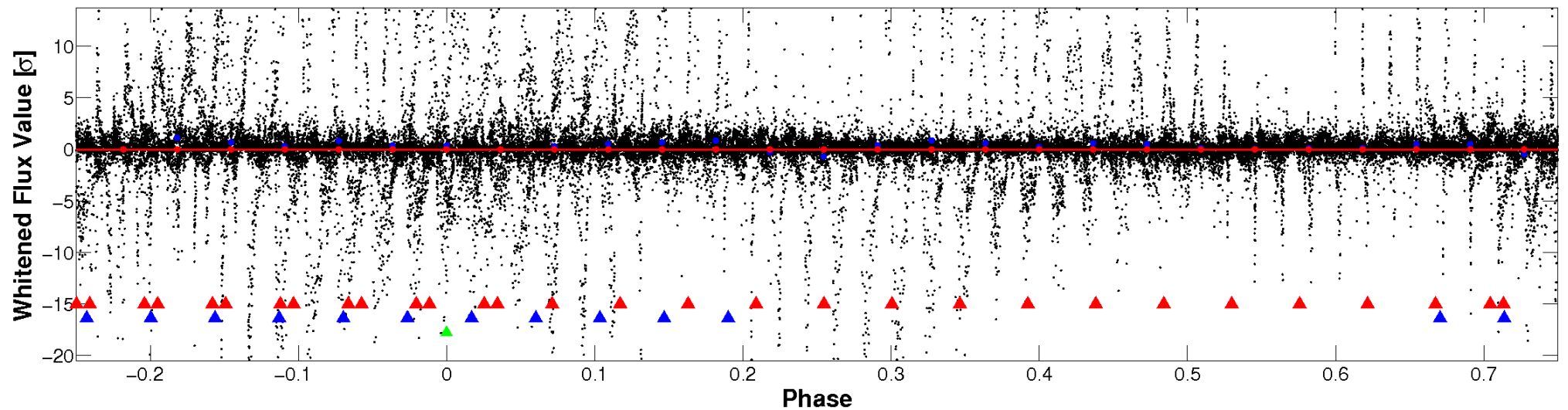


# Non-Whitened Vs. Whitened Light Curve

**Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

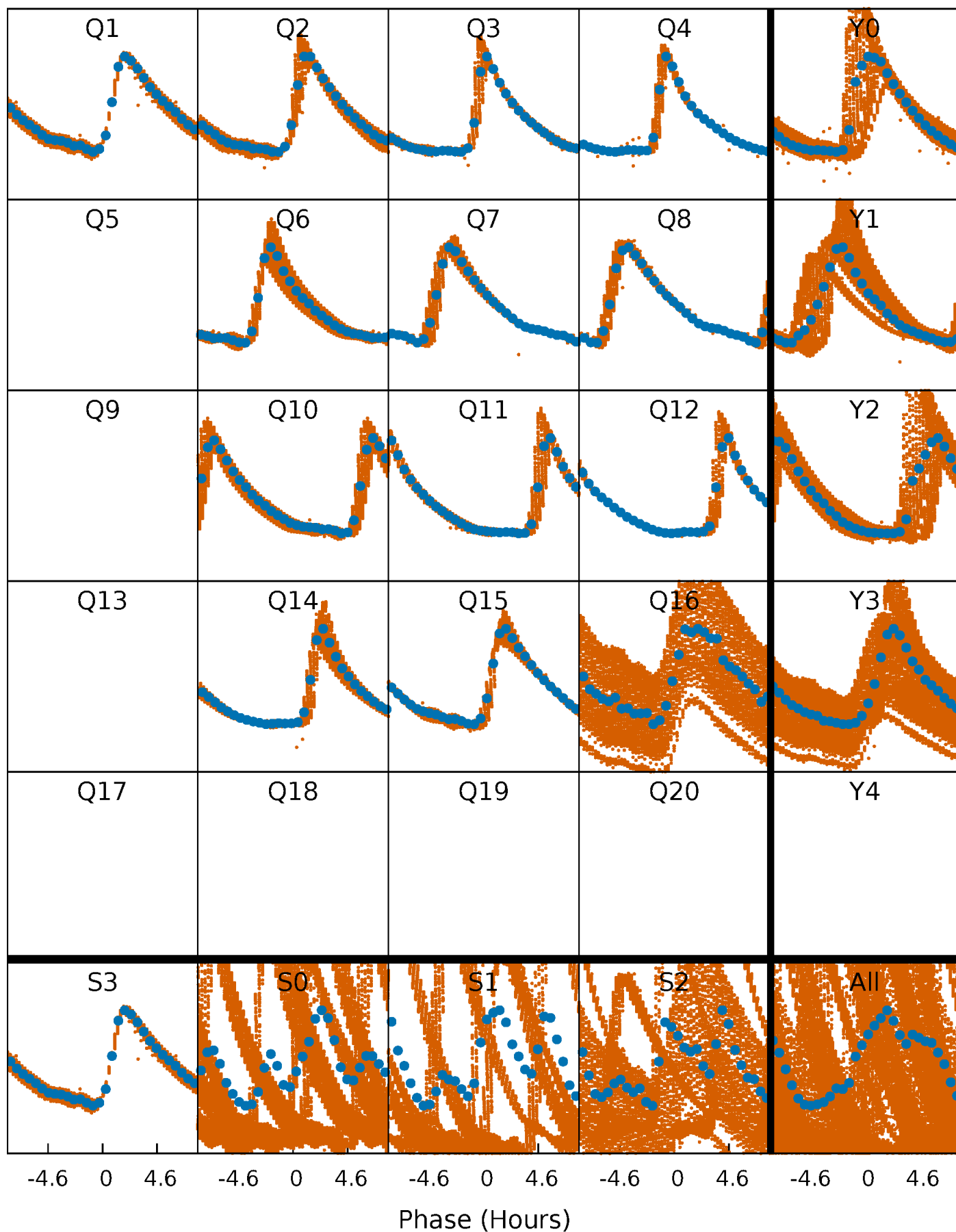


**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



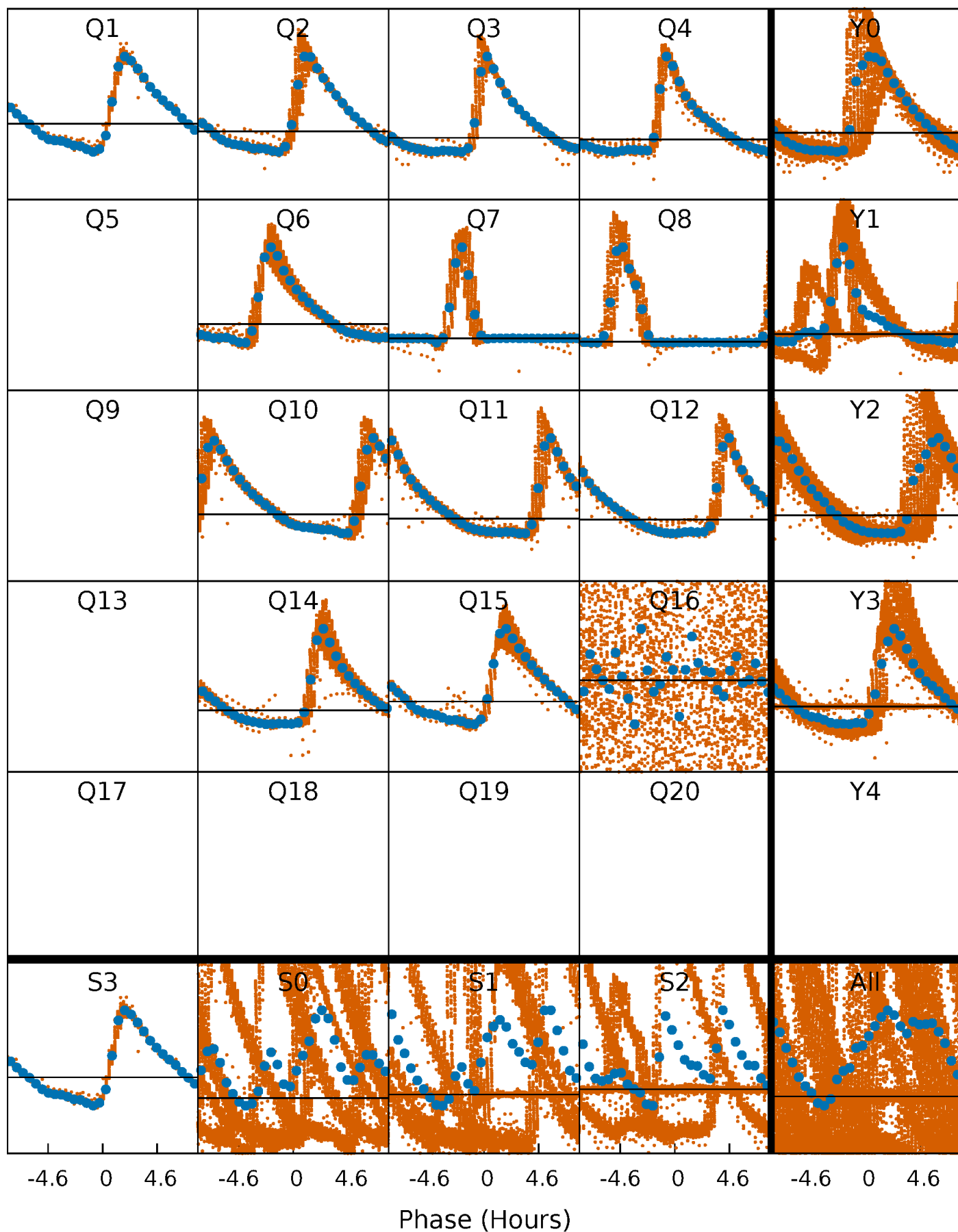
# PDC Quarter-Phased Transit Curves

TCE 006183128-03 P= 0.561950 Days  $T_0=131.724734$  (BKJD)



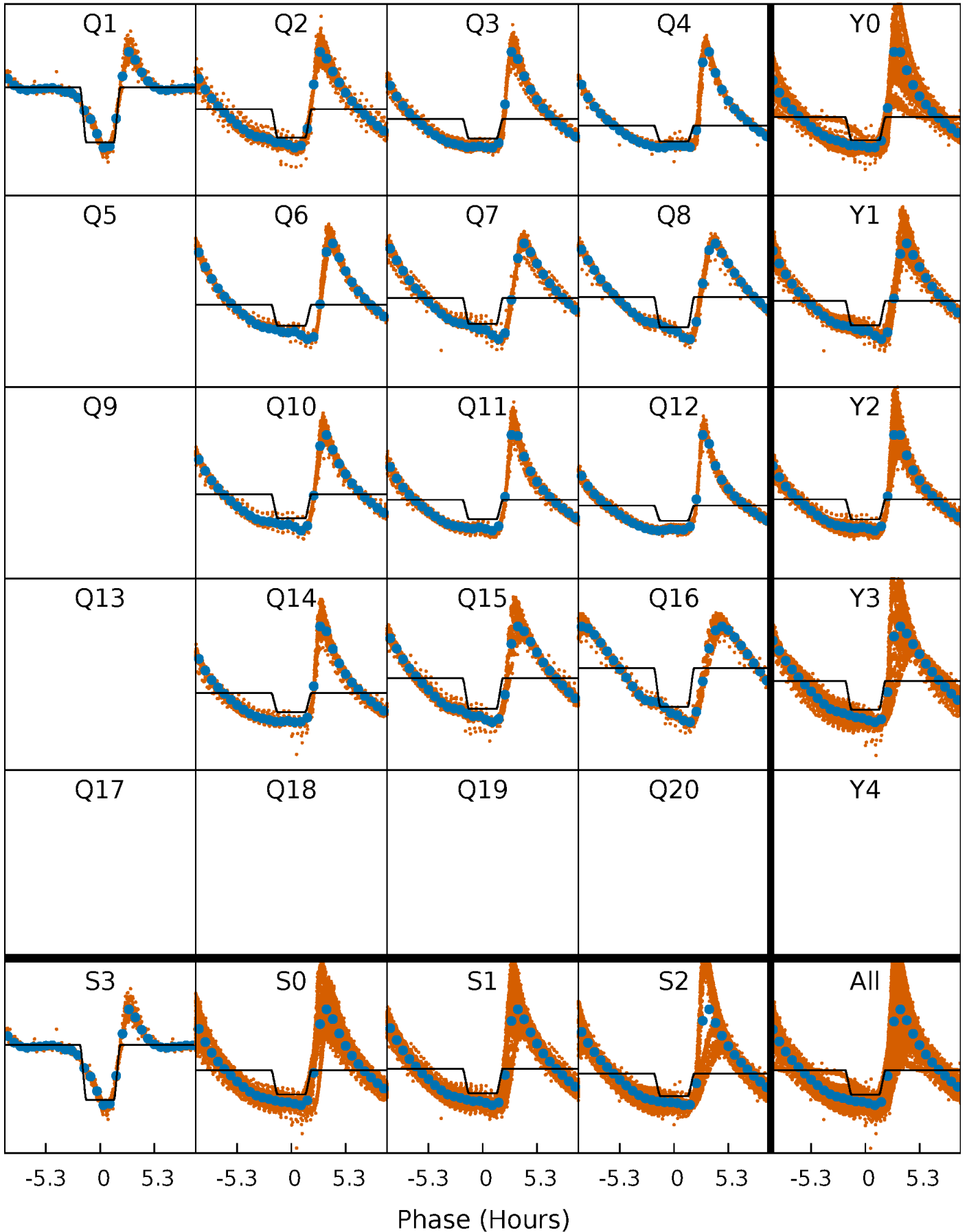
# DV Quarter-Phased Transit Curves

TCE 006183128-03 P= 0.561950 Days  $T_0=131.724734$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

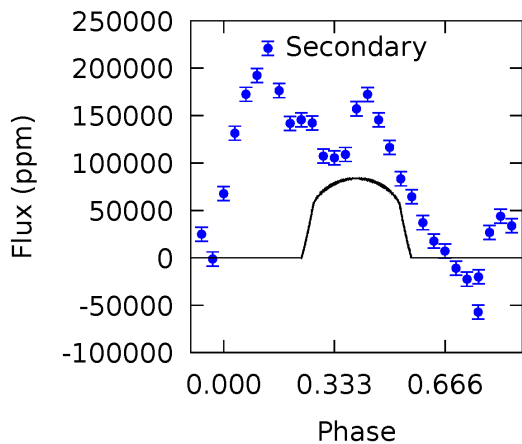
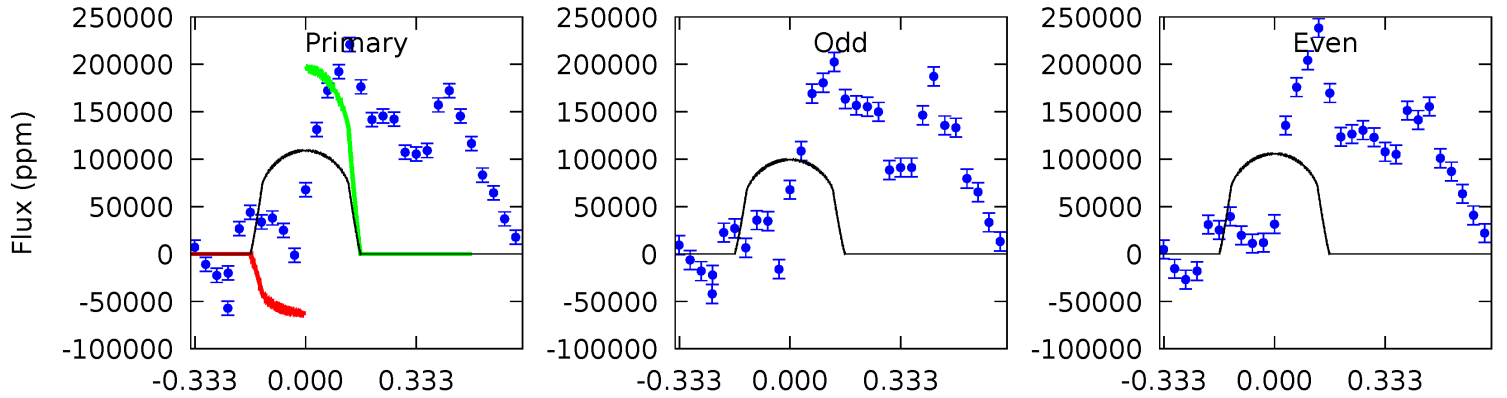
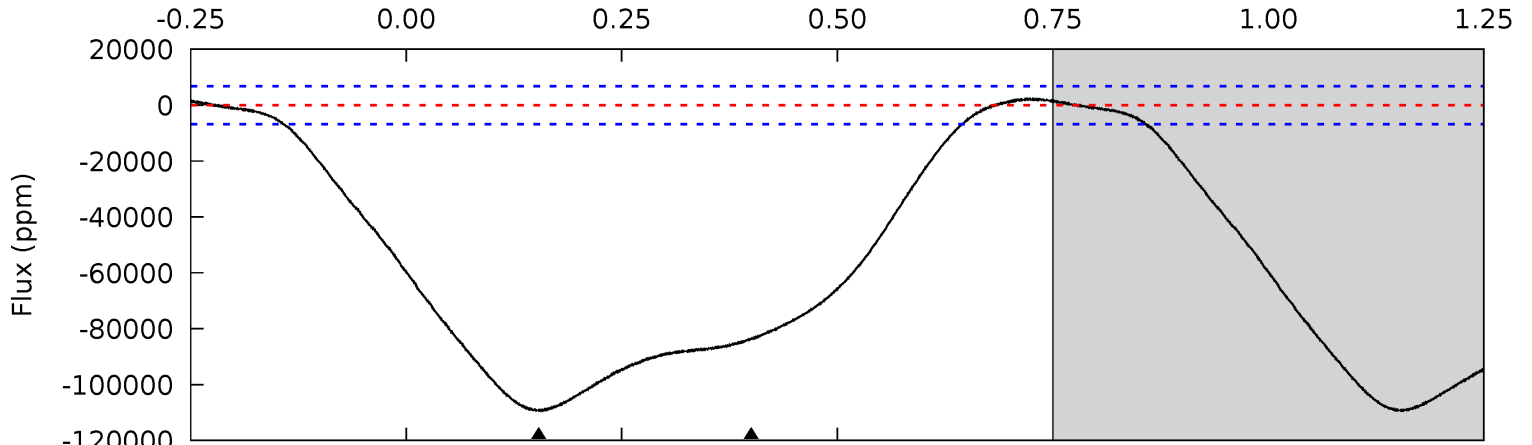
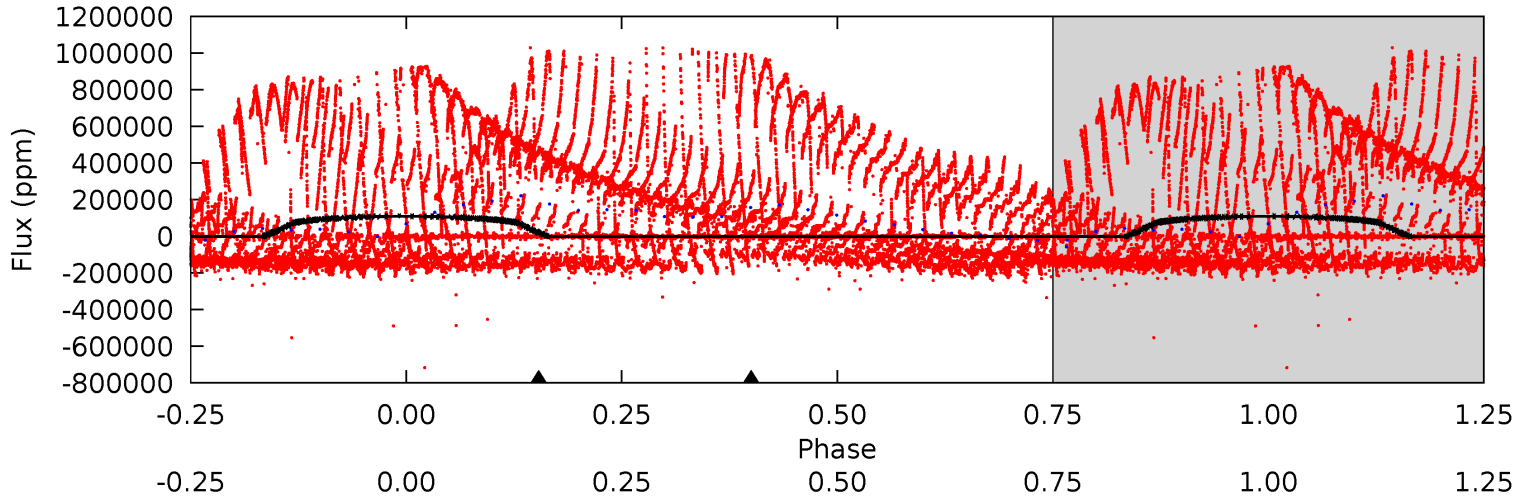
TCE 006183128-03 P= 0.561686 Days  $T_0=131.689951$  (BKJD)



# DV Model-Shift Uniqueness Test

006183128-03, P = 0.561950 Days, E = 131.162784 Days

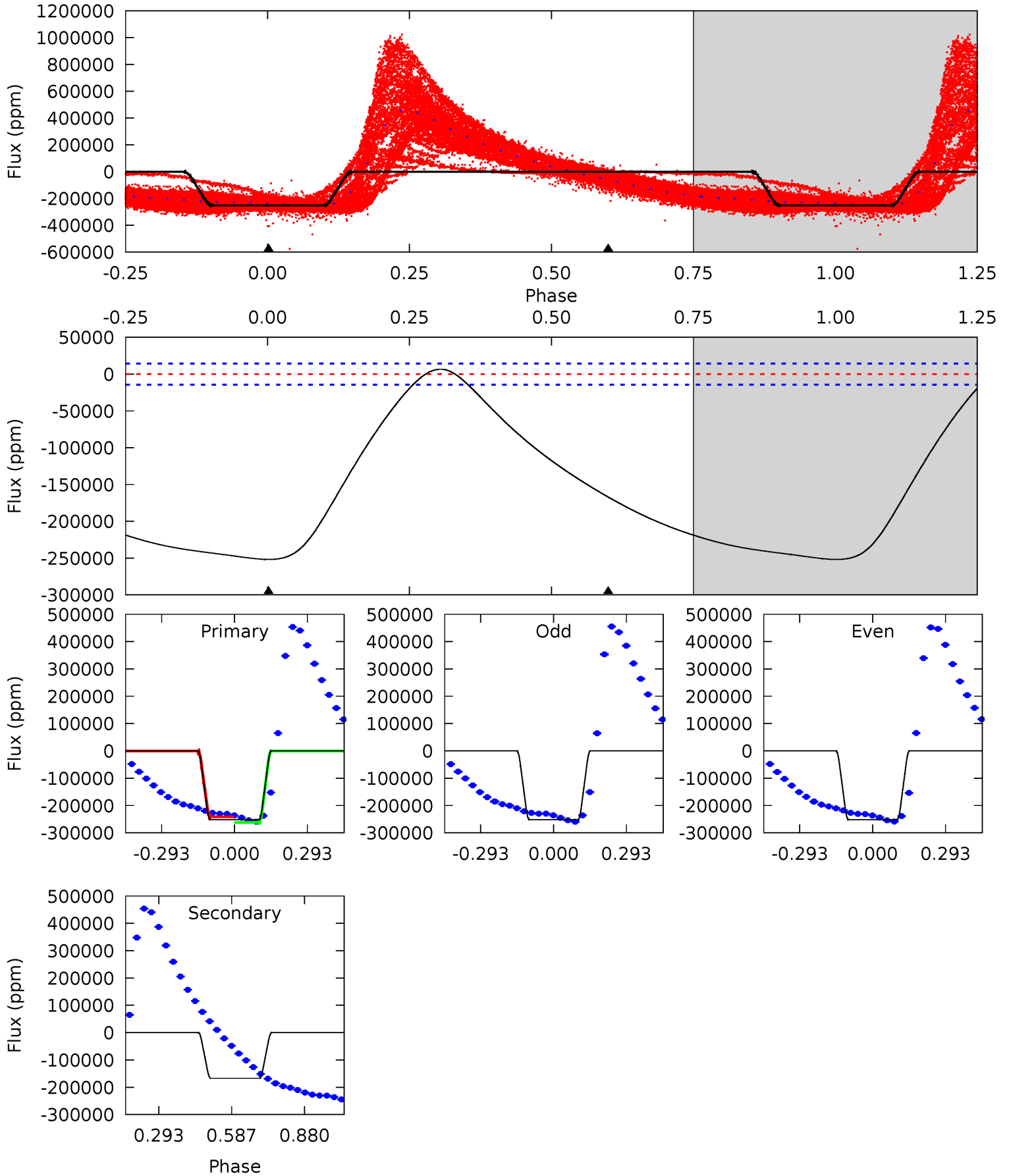
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.4	53.2	0	0	4.31	0.97	0.88	69.4	69.4	53.2	53.2	1.95	2.75	0.02	39.9



# Alt Model-Shift Uniqueness Test

006183128-03, P = 0.561686 Days, E = 131.128265 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.4	50.7	0	0	4.33	1.05	2.21	76.4	76.4	50.7	50.7	0.06	1.00	0.03	3.29





### Stellar Parameters For KIC 006183128

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006183128-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-83649 \pm 1573$	$10.69^{+11.20}_{-7.32}$	$3079^{+145}_{-137}$	$11593^{+30783}_{-4535}$	$78^{+695}_{-59}$
Alt.	$-167108 \pm 3298$	$47.36^{+14.87}_{-15.20}$	$3080^{+151}_{-146}$	$5805^{+1244}_{-733}$	$8.874^{+10.225}_{-3.806}$

$T_{max}$  = Theoretical Maximum Planetary Temperature  
 $T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)  
 $A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

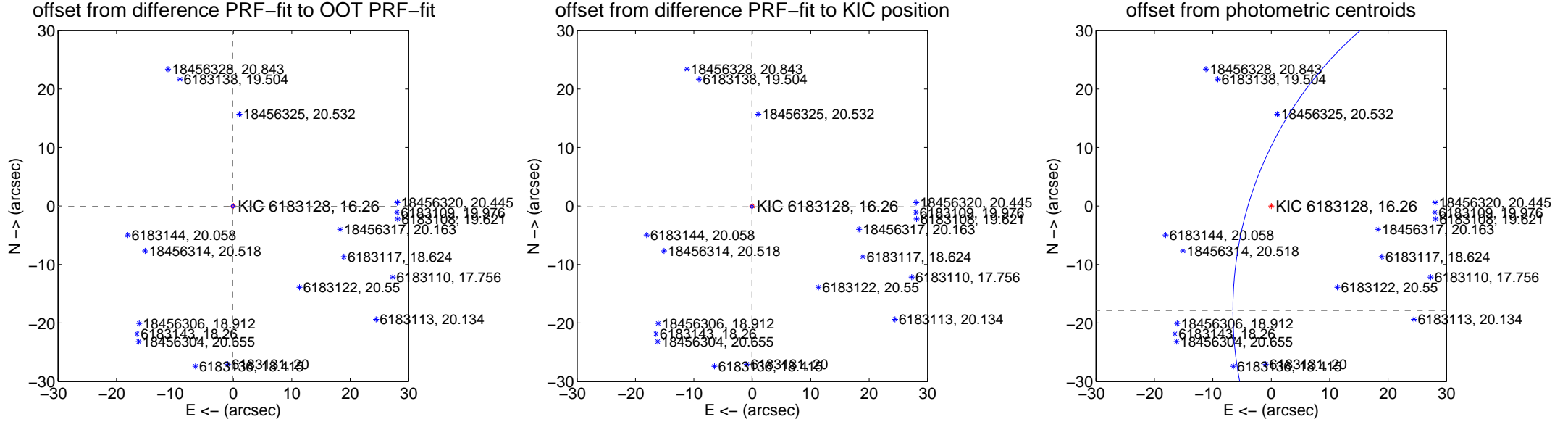
## DV Centroid Data

Supplemental centroid analysis for 006183128-03. Kepler magnitude: 16.26. Transit SNR 0.03

There are 5 quarters with good PRF difference image offsets

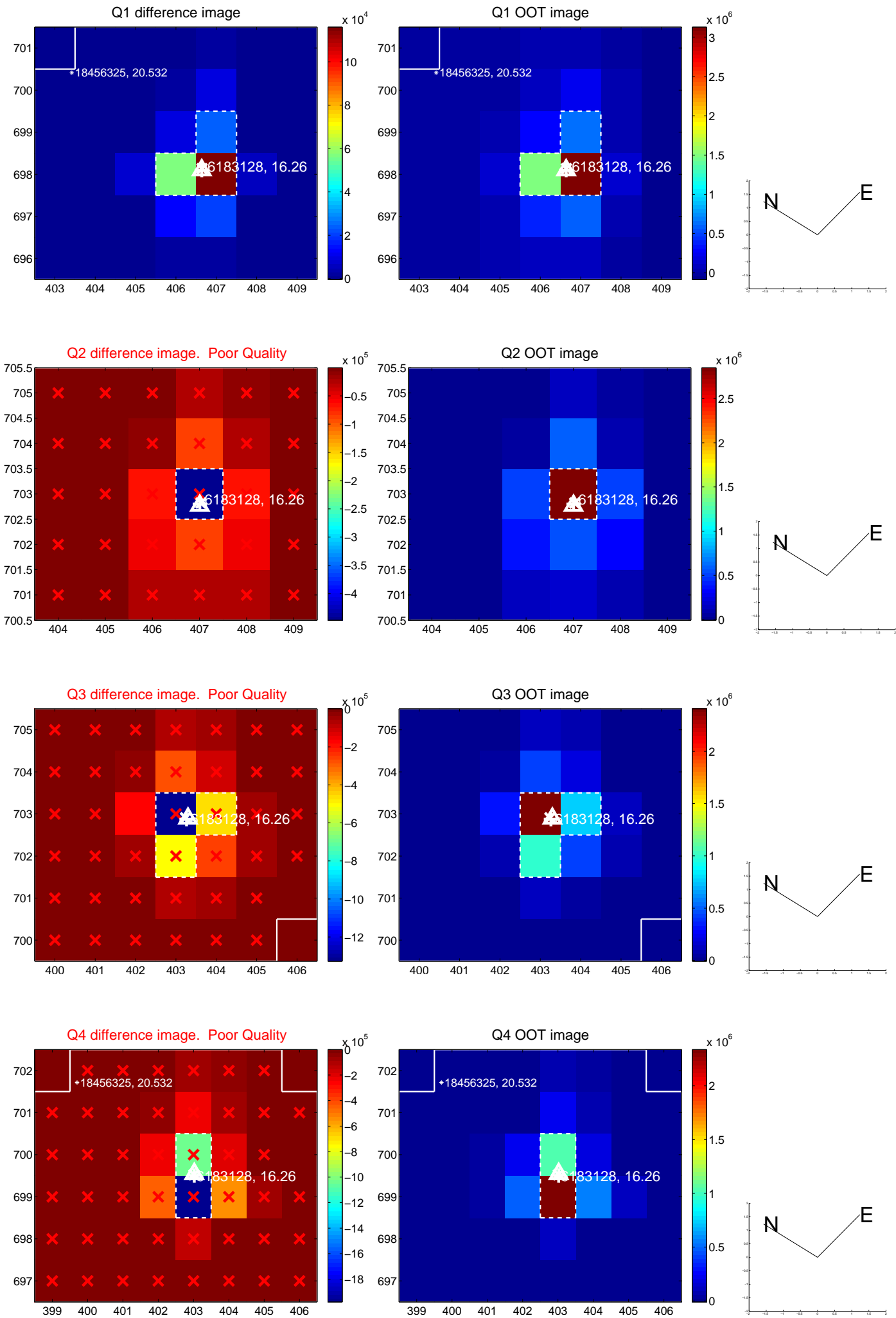
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.103 \pm 0.092$	1.12	$0.091 \pm 0.100$	$-0.048 \pm 0.077$
PRF-fit source offset from KIC position	$0.130 \pm 0.085$	1.52	$0.058 \pm 0.104$	$-0.116 \pm 0.078$
photometric centroid source offset	$59.72 \pm 21.18$	2.82	$-56.98 \pm 21.49$	$-17.88 \pm 17.73$

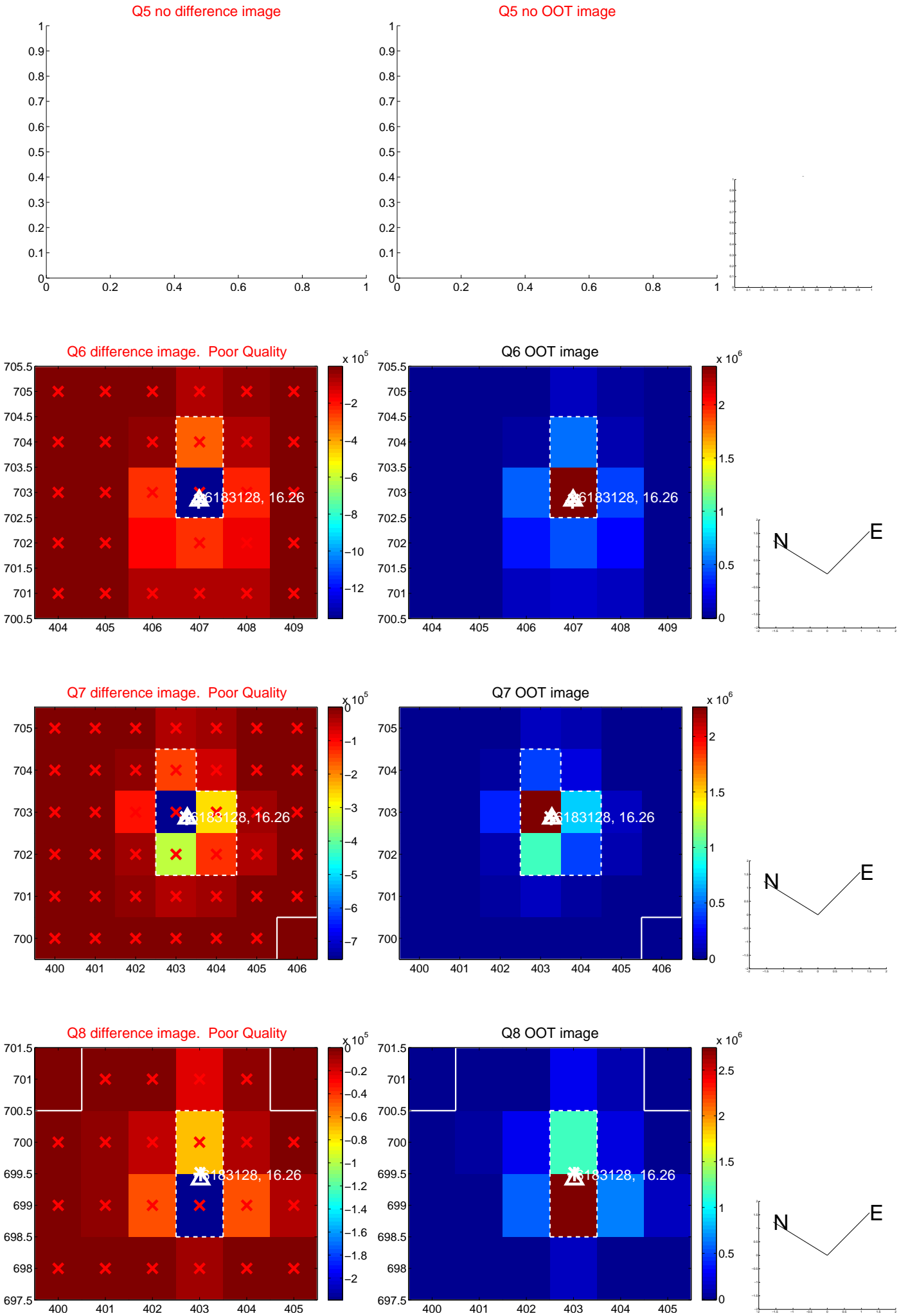


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

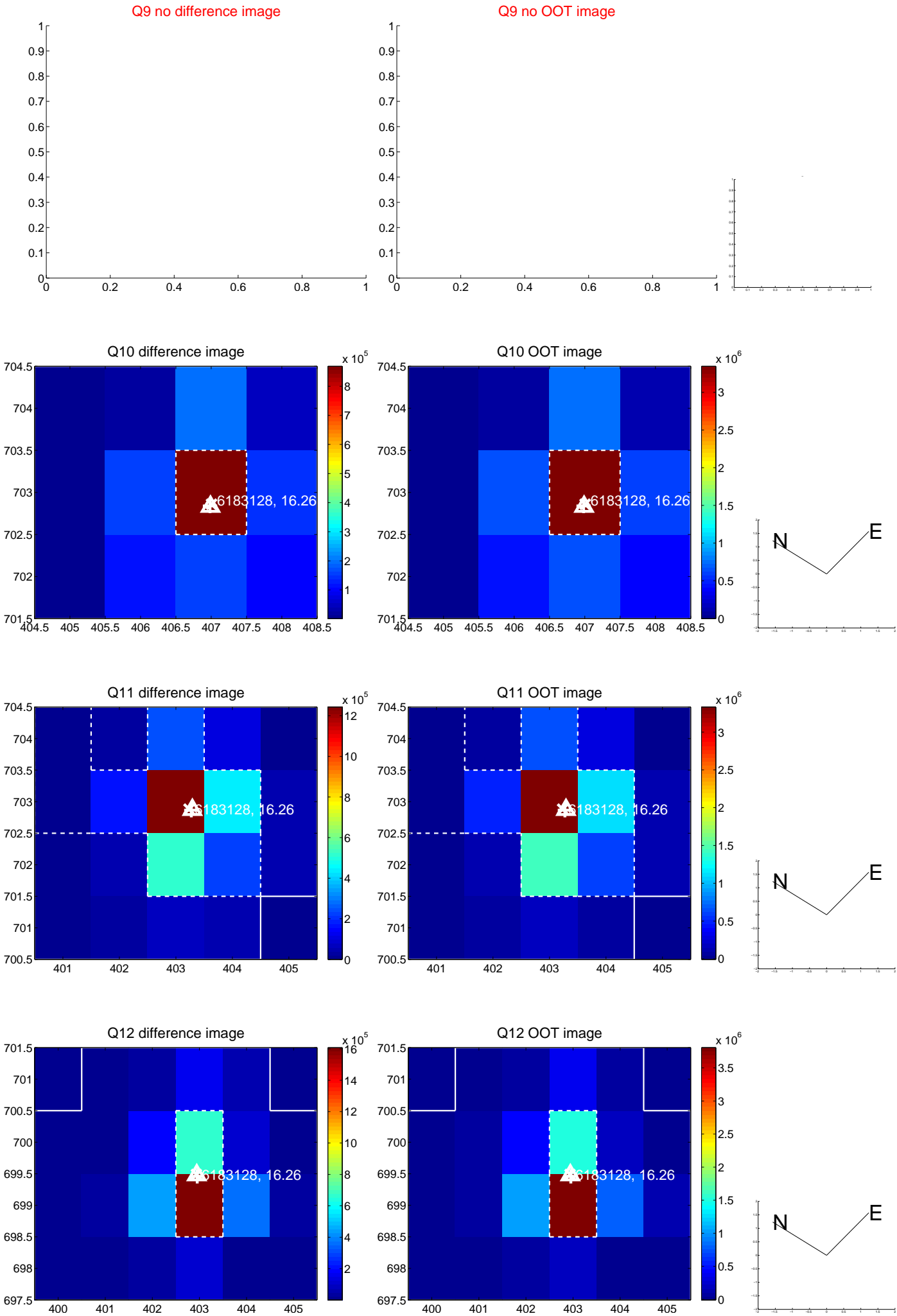
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



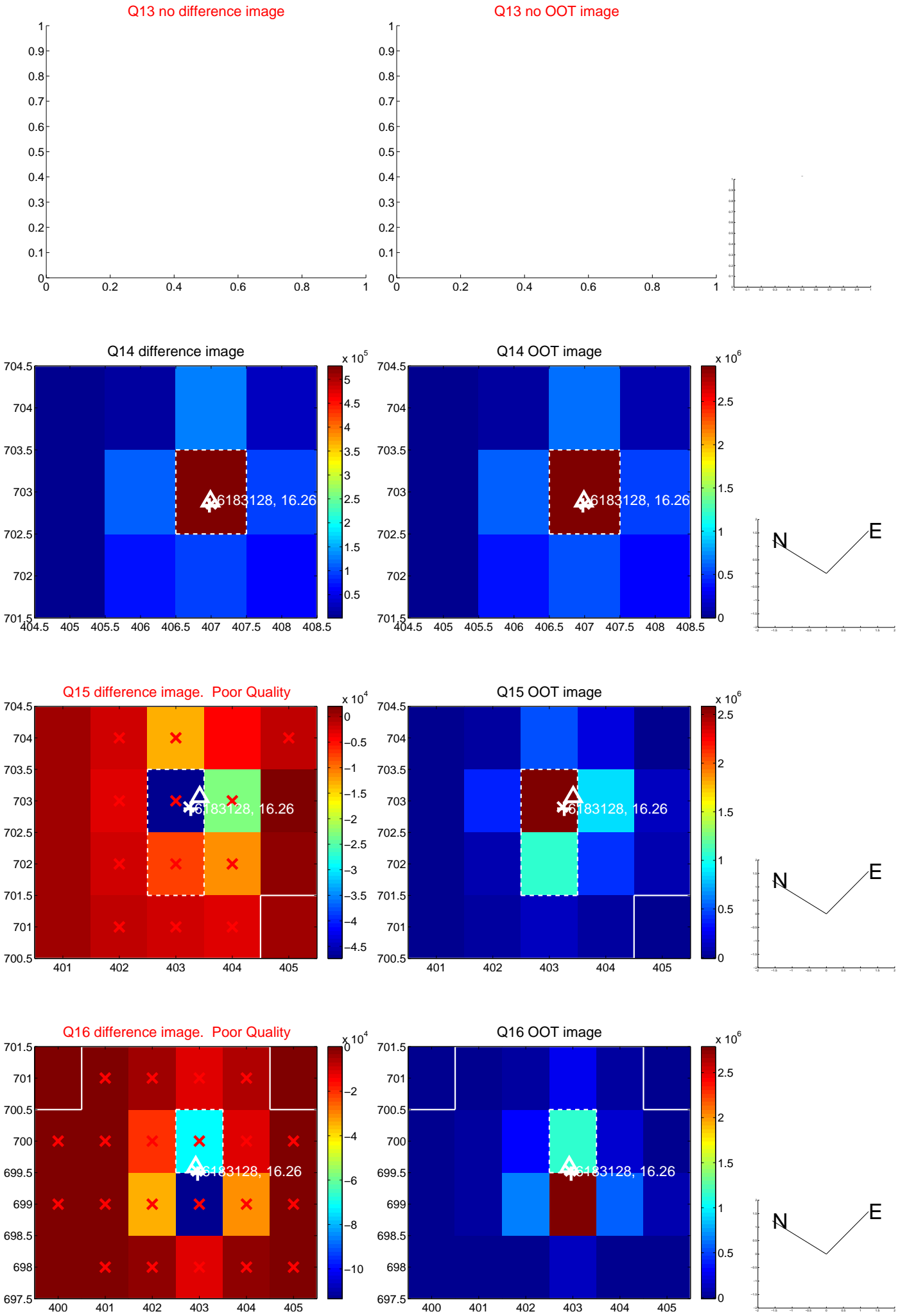
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



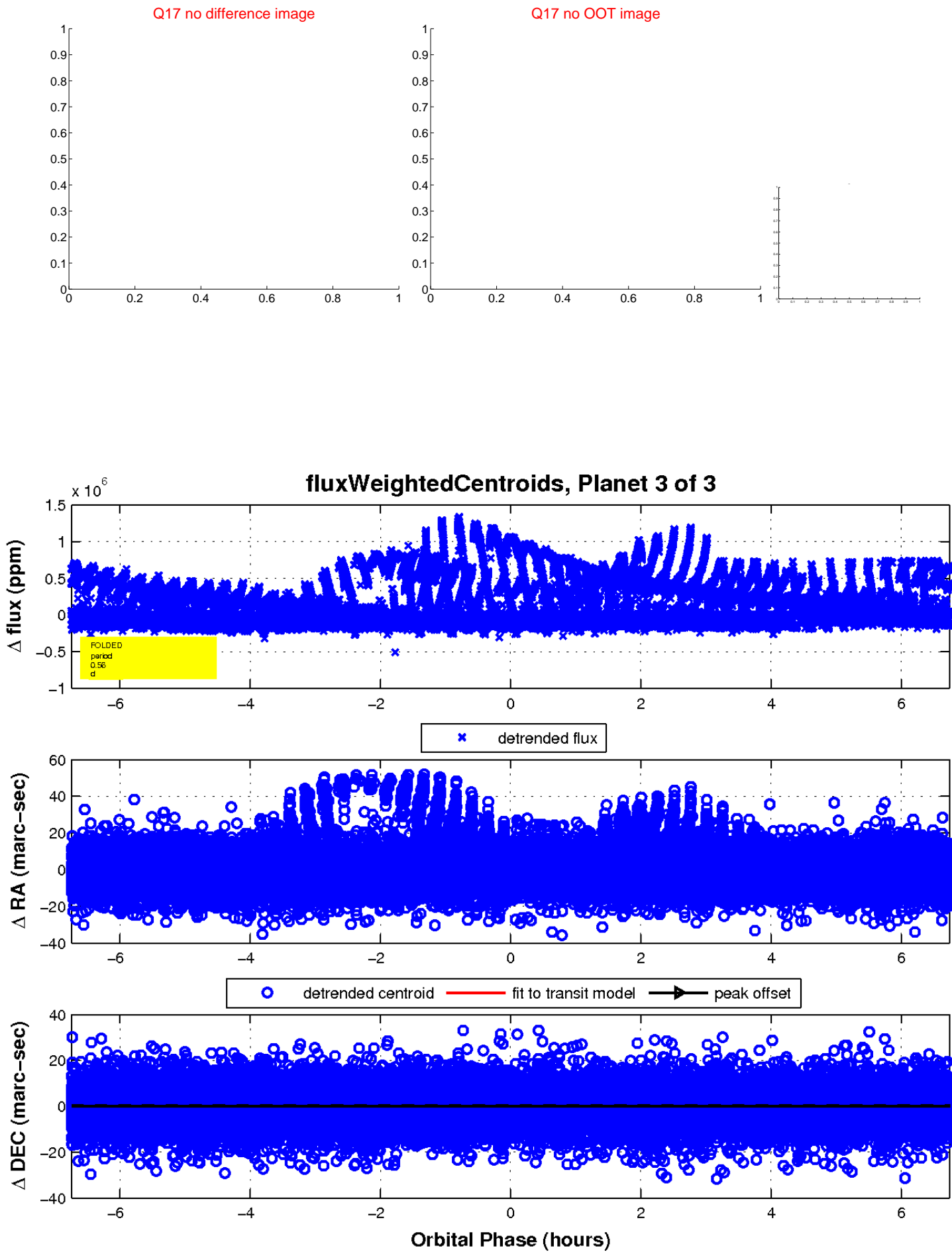
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination

